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TO THE

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OF THE

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1. Report of the Auditor General for the year ended 31st March, 1914, Volume I, Parts A, B and A to L; Volume II, Parts M to U; Volume III, Parts V to Z. Presented by Hon. Mr. White, February 9, 1915. *Printed for distribution and sessional papers.*

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2. The Public Accounts of Canada, for the fiscal year ended 31st March, 1914. Presented by Hon. Mr. White, February 9, 1915. *Printed for distribution and sessional papers.*
3. Estimates of sums required for the service of the Dominion for the year ending on 31st March, 1916. Presented by Hon. Mr. White, February 8, 1915. *Printed for distribution and sessional papers.*
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- 5a. Further Supplementary Estimates for year ending 31st March, 1916. Presented by Hon. Mr. White, March 31, 1915. *Printed for distribution and sessional papers.*

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6. List of Shareholders in the Chartered Banks of the Dominion of Canada as on 31st December, 1914. Presented by Hon. Mr. White, February 9, 1915. *Printed for distribution and sessional papers.*

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7. Report on certified cheques, dividends, unclaimed balances and drafts or bills of exchange remaining unpaid in Chartered Banks of the Dominion of Canada, for five years and upwards prior to 31st December, 1913. Presented by Hon. Mr. White, April 10, 1915. *Printed for distribution and sessional papers.*

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8. Report of Superintendent of Insurance for year 1914. Presented by Hon. Mr. White, 1915. *Printed for distribution and sessional papers.*
9. Abstract of Statement of Insurance Companies in Canada for year ended 31st December, 1914. Presented by Hon. Mr. White, 1914. *Printed for distribution and sessional papers.*

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10. Report of the Department of Trade and Commerce for the fiscal year ended 31st March, 1914: Part I.—Canadian Trade. Presented by Sir George Foster, 8th February, 1915.
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- 10a. Report of the Department of Trade and Commerce for the fiscal year ended 31st March, 1914: Part II.—Canadian Trade with (1) France, (2) Germany, (3) United Kingdom, and (4) United States. Presented by Sir George Foster, 8th February, 1915.
Printed for distribution and sessional papers.
- 10b. Report of the Department of Trade and Commerce for the fiscal year ended 31st March, 1914: Part III.—Canadian Trade with foreign countries (except France, Germany, the United Kingdom, and United States.) Presented by Sir George Foster, 8th February, 1915...
Printed for distribution and sessional papers.
- 10c. Report of the Department of Trade and Commerce, for the fiscal year ended 31st March, 1914, (Part IV, Miscellaneous Information.) Presented by Sir George Foster, March 27, 1915...
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- 10e. Report of the Department of Trade and Commerce for the fiscal year ending 31st March, 1914. Part VI.—Subsidized Steamship Services, with statistics showing steamship traffic to 31st December, 1914, and Estimates for the fiscal year 1915-16. Presented by Sir George Foster, 1915...
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- 10f. Report of Trade and Commerce for fiscal year ended 31st March, 1914. (Part VII.—Trade of Foreign Countries, Treaties and Conventions.) Presented by Sir George Foster, 1915...
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15. Report of the Minister of Agriculture for the Dominion of Canada, for the year ended 31st March, 1914. Presented by Hon. Mr. Burrell, February 8, 1915.
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- 15b. Report of the Veterinary Director General for the year ending 31st March, 1915. Presented by Hon. Mr. Burrell, 1915...
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16. Report of the Director and Officers of the Experimental Farms for the years ending 31st March, 1914. Presented by Hon. Mr. Burrell, March 1, 1915.
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17. Criminal Statistics for the year ended 30th September, 1913. (Appendix to the Report of the Minister of Trade and Commerce for the year 1913.) Presented by Sir George Foster, 1915...
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18. Return of By-elections for the House of Commons of Canada, held during the year 1914. Presented by Hon. Mr. Speaker, March 12, 1915.
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19. Report of the Minister of Public Works on the works under his control for the fiscal year ended 31st March, 1914, Volume I. Presented by Hon. Mr. Rogers, February 8, 1915.
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20. Annual Report of the Department of Railways and Canals, for the fiscal period from 1st April, 1913, to 31st March, 1914. Presented by Hon. Mr. Cochrane, March 12.
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- 20a. Canal Statistics for the season of navigation, 1914. Presented by Hon. Mr. Cochrane, 9th April, 1915.*Printed for distribution and sessional papers.*
- 20b. Railway Statistics of the Dominion of Canada, for the year ended 30th June, 1914. Presented by Hon. Mr. Cochrane, March 12, 1915.
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- 20c. Ninth Report of the Board of Railway Commissioners for Canada, for the year ending 31st March, 1914. Presented by Hon. Mr. Cochrane, February 8, 1915.
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- 20d. Telephone Statistics of the Dominion of Canada, for the year ended 30th June, 1914. Presented by Hon. Mr. Cochrane, March 17, 1915.
Printed for distribution and sessional papers.
- 20e. Express Statistics of the Dominion of Canada for year ended 30th June, 1914. Presented by Hon. Mr. Cochrane, 1915.*Printed for distribution and sessional papers.*
- 20f. Telegraph Statistics of the Dominion of Canada, for the year ended 30th June, 1914. Presented by Hon. Mr. Cochrane, March 17, 1915.
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23. Supplement to the Forty-seventh Annual Report of the Department of Marine and Fisheries for the fiscal year 1913-14—Steamboat Inspection Report. Presented by Hon. Mr. Hazen, March 3, 1915.*Printed for distribution and sessional papers.*

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- 29b. Report of the work of the Public Archives for the year 1913. Presented, 1915.
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- 36a.** Seventh Report of the Registrar of Boards of Conciliation and Investigation of the proceedings under "The Industrial Disputes Investigation Act, 1907," for the fiscal year ending 31st March, 1914. Presented by Hon. Mr. Crothers, 8th February, 1915.
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- 37.** Tenth Annual Report of the Commissioners of the Transcontinental Railway, for the year ended 31st March, 1914. Presented by Hon. Mr. Cochrane, 8th February, 1915.
Printed for distribution and sessional papers.
- 37a.** Interim Report of the Commissioners of the Transcontinental Railway, for the nine months ended 31st December, 1914. Presented by Hon. Mr. Cochrane, 15th February, 1915... ..*Not printed.*
- 38.** Report of the Department of the Naval Service, for the fiscal year ending 31st March, 1914. Presented by Hon. Mr. Hazen, 8th February, 1915.
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- 39.** Forty-seventh Annual Report of the Department of Marine and Fisheries, 1913-14—Fisheries. Presented by Hon. Mr. Hazen, 8th February, 1915.
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- 39a.** Fisheries Investigations in Hudson's and James Bays. Presented by Hon. Mr. Hazen, 1915... ..*Printed for distribution and sessional papers.*
- 39b.** Supplement to the 47th Annual Report of the Department of Marine and Fisheries (Fisheries Branch),—Contributions to Canadian Biology, 1911-14, Part I—Marine Biology Presented by Hon. Mr. Hazen, 16th February, 1915.
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- 41.** Report of R. A. Pringle, K.C., Commissioner appointed to investigate into the payment of subsidies to the Southampton Railway Company, together with the evidence, etc., taken before the Commissioner. Presented by Hon. Mr. Cochrane, 8th February, 1915.
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- 42.** Radiotelegraph Regulation 106 concerning the wave length for use by Canadian licensed ship stations during the period of hostilities, and
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- 43.** No. P. C. 260, dated 3rd February, 1915, *re* Establishment of Rank of Mate in the Royal Canadian Navy. Presented by Hon. Mr. Hazen, 8th February, 1915... ..*Not printed.*
- 43a.** Copy of Order in Council No. P.C. 304, dated 18th February, 1915.—Establishment of ranks of Lieutenant-Commander, Engineer Lieutenant-Commander and Lieutenant-Commander R.C.N.V.R., in the Royal Canadian Navy. Presented by Hon. Mr. Hazen, 11th March, 1915... ..*Not printed.*
- 43b.** Copy of Order in Council No. P.C. 476, dated 6th March, 1915,—Regulations concerning the classification of engineer officers. Presented by Hon. Mr. Hazen, 15th March, 1915.
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- 44.** Copies of Orders in Council *re* Naval Service.
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45. Return to an Order of the House of the 20th April, 1914, for a copy of all letters, papers, tenders and other documents in regard to the purchase of any cars for the Intercolonial Railway during the years 1912 and 1913. Presented 9th February, 1915.—*Mr. Macdonald*.*Not printed.*
- 45a. Return to an Order of the House of the 15th February, 1915, for a copy of all letters, telegrams, contracts, and other documents relating to the purchase of cars by the Intercolonial Railway since 1st July, 1914. Presented 9th April, 1915.—*Mr. Macdonald*.
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46. Return to an Order of the House of the 26th February, 1914, for a return showing:—1. The average cost per mile of construction of the Canadian Pacific Railway from its inception to date. 2. The average cost per mile in the last ten years. 3. The average rental per mile of lines leased by the Canadian Pacific Railway Company, and the names of such leased lines. 4. The rental paid by the Canadian Pacific Railway for the Toronto, Grey and Bruce Railway from Toronto to Owen Sound. Presented 9th February, 1915.—*Mr. Middlebro*.*Not printed.*
47. Return to an Order of the House of the 1st June, 1914, for a return showing the revenue derived from freight received at and forwarded from the following stations on the Intercolonial Railway during the fiscal years 1913 and 1914, giving separately the amount for each of said stations, viz.: Drummondville, Rimouski, Ste. Flavie, Matapédia, Campbellton and Bathurst. Presented 9th February, 1915.—*Mr. Boulay*.
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48. Return to an Order of the House of the 1st June, 1914, for a return showing the names of the staff employed in the several departments of the general offices of the Intercolonial Railway at Moncton, together with their salaries respectively as of 1st April, 1914. Presented 9th February, 1915.—*Mr. Emmerson*.*Not printed.*
49. Return to an Order of the House of the 18th May, 1914, for a return showing the names of the men who have been appointed to positions in the Prince Edward Railway Service from the 1st January, 1912, to the 1st May, 1914; the positions held by such appointees and the salary or wages attached to each position. Presented 9th February, 1915.—*Mr. Hughes (Kings, P.E.I.)*.*Not printed.*
- 49a. Return to an Order of the House of the 1st March, 1915, for a return giving the names and post office addresses of all persons appointed to positions on the Prince Edward Island Railway from the 1st of October, 1911, to the present time; with a description of the position to which each person was so appointed. Presented 22nd March, 1915.—*Mr. Hughes (Kings, P.E.I.)*.*Not printed.*
50. Return to an Order of the House of the 11th February, 1914, for a return showing the names, tonnage, port of registry and destination of all foreign vessels engaged in fishing, both sail and steam, that entered and cleared from the port of North Sydney during the year ending 31st December, 1913. Presented 9th February, 1915.—*Mr. Sinclair*.*Not printed.*
51. Return to an Order of the House of the 1st June, 1914, for a copy of all correspondence between the Department of Justice and the Attorney General of Quebec, with regard to the appointment of judges, since the 1st of February, 1913. Presented 9th February, 1915.—*Sir Wilfrid Laurier*.*Not printed.*
52. Return to an Order of the House of the 30th March, 1914, for a return showing:—1. Particulars of the inventories and value of the estate of the late George A. Montgomery, Registrar at Regina, whose estate escheated to the Crown. 2. The amount realized at Regina or elsewhere, on the conversion of said estate into money. 3. The costs paid or allowed with names and amounts paid or allowed before the residue was paid over to the Crown. 4. The amount paid over and actually received by the Crown. 5. The disposition of the fund and the names of the persons to whom any sum has been paid, and the respective amounts thereof so paid over or allowed since the Crown received the same. 6. A statement showing the difference between the reports of the present and the late Minister of Justice as to disposition of the fund, and a copy of such correspondence and representations as led up to any change. 7. The actual balance now on hand and the intended disposition thereof. Presented 9th February, 1915.—*Mr. Graham*.*Not printed.*
53. Return to an Order of the House of the 16th March, 1914, for a return showing all persons, male or female, who have been capitally convicted in Canada, and each province, for each year, from the 1st of July, 1867, to the 2nd of February, 1914, specifying the offences and whether and how the sentences were carried into effect by execution, or otherwise, with the name of convicts; dates of conviction; crime of which committed; sentences passed; judges by whom sentenced; and how dealt with. 2. For a return showing all convicts, male and female, who have been reprieved from the execution of capital sentences passed upon them during the above mentioned period, with the name

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- of convicts; dates of conviction; crime of which convicted; sentences passed; by whom sentenced; sentences commuted, and if so, to what. 3. For a return showing all persons in Canada, and each province, convicted during the above mentioned period of murder whose sentences have been mitigated, or who have received a free pardon, together with a statement of the offences of which they were severally convicted, with the name of convicts; dates of conviction; nature of offence; sentences; and extent of mitigation of sentences and dates. 4. For a return of instances, during the above mentioned period, in which appeal has been made on behalf of the persons convicted of capital offences to His Excellency, the Governor in Council, for the exercise of the Royal Prerogative of pardon, or mitigation of sentences, with the name of convicts; dates of conviction and place; crime of which convicted; sentences; dates of appeal; and the result. Presented 9th February, 1915.—*Mr. Wilson (Laval)*... *Not printed.*
54. General Rules and Orders of the Exchequer Court of Canada made, respectively, on the 23rd September, 1914, and the 18th June, 1914. Presented by Hon. Mr. Coderre, 9th February, 1915... *Not printed.*
- 54a. General Rules and Orders of the Exchequer Court of Canada made on the 15th February, 1915. Presented by Hon. Mr. Coderre, 16th March, 1915... *Not printed.*
55. Ordinances of the Yukon Territory passed by the Yukon Council in the year 1914. Presented by Hon. Mr. Coderre, 9th February, 1915... *Not printed.*
56. Return to an Order of the House of the 18th May, 1914, for a return showing the details of moneys paid to J. F. Farrington, \$248.25; B. H. Smith, \$469.50, and H. C. Dash, \$182.40, as set forth in *Hansard* of this session, page 3071. Presented 9th February, 1915.—*Mr. McLean (Halifax)*... *Not printed.*
57. Return to an Order of the House of the 16th March, 1914, for a copy of instruction sent to Mr. Wm. Flynn, advocate, to hold investigations into charges made against employees of the Department of Marine and Fisheries in Bonaventure County, and reports made by him in such investigations. Presented 9th February, 1915.—*Mr. Marcil (Bonaventure)*... *Not printed.*
58. Return to an Order of the House of the 27th April, 1914, for a copy of all documents bearing upon the application made to the Department of Marine and Fisheries for the dismissal of Ulric Dion, lightkeeper at St. Charles de Caplan, Quebec, and the appointment of Omer Arsenault in his place, and on the action taken by the Department in that connection. Presented 9th February, 1915.—*Mr. Marcil (Bonaventure)*.
Not printed.
59. Return to an Order of the House of the 9th February, 1914, for a copy of all agreements made and entered into between the Department of Marine and Fisheries or the Government and Railway and Express Companies, including the Intercolonial Railway, relating to the transportation of fresh fish by fast freight or express, since the year 1906; also a copy of all guarantees given to railway and express companies by the Government or any Department thereof, relating to such transportation, together with a statement of all disbursements made by the Department of Marine and Fisheries each year under the terms of such agreements or guarantees, distinguishing between disbursements made on account of fast freight and disbursements made on account of express shipments; also the number of refrigerator cars, subject to guarantee, by Department of Marine and Fisheries, forwarded by fast freight from Mulgrave or Halifax to Montreal, each calendar year since 1906, and the number of tons of freight carried by such cars each year. Also the number of refrigerator express cars forwarded from said points, Mulgrave and Halifax to Montreal, up to December 31, 1913, under the terms of an agreement made since 1911, between the Department of Marine and Fisheries and the railway or express companies or both. Also the number of tons of fresh fish carried by express companies, prior to December 31, 1913, under the last mentioned agreement; and the amount paid up to December 31, 1913, by the Department of Marine and Fisheries, under the last mentioned agreement. Also the number of tons of fresh fish carried by express companies from Mulgrave and Halifax to points west since 1906, on which the Government paid one-third, but not under the terms of the said agreement made as aforesaid, since 1911. Presented 9th February, 1915.—*Mr. Sinclair*... *Not printed.*
60. Return to an Order of the House of the 20th April, 1914, for a return showing all the post offices in the several counties in the province of Nova Scotia for which a rent allowance, or a fuel fund, and light allowance is made, specifying the amount of such allowance in each case. Presented 9th February, 1914.—*Mr. Chisholm (Antigonish)*.
Not printed.
61. Return to an Order of the House of the 16th March, 1914, for a copy of all correspondence, letters, telegrams, etc., in the year 1913, relating to the carrying of the mails between Grand River Falls and Grand River, county of Richmond, and the awarding of the contract to Malcolm McCuspie. Presented 9th February, 1915.—*Mr. Kyte*.
... *Not printed.*

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62. Return to an Order of the House of the 11th May, 1914, for a copy of all letters, telegrams, correspondence and memorials since the 1st day of November, 1911, relating to the post office at Johnstown, Richmond County, N.S., and to complaints against the present postmaster and recommendations for his dismissal. Presented 9th February, 1915.—*Mr. Kyte*... ..*Not printed.*
63. Return to an Order of the House of the 20th April, 1914, for a copy of all papers, petitions, letters and telegrams concerning the change of site of the post office at St. Lazare Village, county of Bellechasse, Quebec. Presented 9th February, 1915.—*Mr. Lemieux*... ..*Not printed.*
64. Statement of Governor General's Warrants issued since the last Session of Parliament on account of 1914-15. Presented by Hon. Mr. White, 9th February, 1915.
Not printed.
65. Statement of expenditure on account of "Miscellaneous Unforeseen Expenses," from the 18th August, 1914, to the 4th February, 1915, in accordance with the Appropriation Act of 1914. Presented by Hon. Mr. White, 9th February, 1915... ..*Not printed.*
66. Statement of Superannuation and Retiring Allowances in the Civil Service during the year ending 31st December, 1914, showing name, rank, salary, service, allowance and cause of retirement of each person superannuated or retired, also whether vacancy is filled by promotion or by appointment, and salary of any new appointee. Presented by Hon. Mr. White, 9th February, 1915... ..*Not printed.*
67. Statement of receipts and expenditures of the Ottawa Improvement Commission to 31st March, 1914. Presented by Hon. Mr. White, 9th February, 1915... ..*Not printed.*
68. Statement of the affairs of the Royal Society of Canada, for the year ended 30th April, 1914. Presented by Hon. Mr. White, 9th February, 1915... ..*Not printed.*
69. Account of the average number of men employed on the Dominion Police Force during each month of the year 1914, and of their pay and travelling expenses, pursuant to Chapter 92, Section 6, Subsection 2, of the Revised Statutes of Canada. Presented by Hon. Mr. Doherty, 10th February, 1915... ..*Not printed.*
70. Return to an Order of the Senate, dated the 16th January, 1913, calling for copy of the plans, reports, soundings, and other germane information respecting the ports of Churchill and Fort Nelson, so far as the Department of Railways and Canals is concerned.—(*Senate*)... ..*Not printed.*
71. Return to an Order of the Senate, dated the 29th April, 1914, showing:—1. Titles of all books, pamphlets and other printed papers issued by the King's Printer during the year ending on the 31st of March, 1914. 2. The number of each of such books, pamphlets and papers printed during such year, and the number distributed, with the dates of distribution. 3. The number of pages in each. 4. The cost of each. 5. The authority for the printing and issuing of each of such books, pamphlets and papers.—(*Senate*)... ..*Not printed.*
72. Return to an Order of the Senate dated the 30th April, 1914, for the production of all proposals submitted to the Government for the construction of the Montreal, Ottawa and Georgian Bay Canal and all the correspondence relating thereto.—(*Senate*).
Not printed.
- 72a. Return to an Order of the House of the 11th February, 1915, for a copy of all petitions and memoranda from commercial bodies or other parties in relation to the immediate construction of the Georgian Bay Canal, and of all correspondence in connection with the same since 21st September, 1911. Presented 4th March, 1915.—*Sir Wilfrid Laurier*.
Not printed.
73. Copies of general orders promulgated to the militia for the period between 25th November, 1913, and 24th December, 1914.—(*Senate*)... ..*Not printed.*
74. Copy of correspondence respecting the control of the exportation of nickel. Presented by Sir Robert Borden, 11th February, 1915... ..*Not printed.*
75. Memorandum respecting work of the Department of Militia and Defence—European War, 1914-15. Presented by Hon. Mr. Hughes, 11th February, 1915... ..*Not printed.*
76. Return to an Order of the House of the 6th April, 1914, for a copy of all correspondence, letters, telegrams, complaints and documents of all kinds received by the Department of Trade and Commerce during the years 1913-14, with respect to the Pictou-Mulgrave-Cheticamp steamship route. Presented 11th February, 1915.—*Mr. Chisholm (Inverness)*... ..*Not printed.*

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77. Return to an Order of the House of the 8th June, 1914, for a copy of all documents bearing on an application or applications made to the Superintendent General of Indian Affairs or the Department, on an amendment to the Indian Act to facilitate the sale of the Indian Reserve of Restigouche, Que., or on the acquiring otherwise of any portion or the whole of the said reserve for industrial or other purposes, and any answers given thereto. Presented 11th February, 1915.—*Mr. Marcell (Bonaventure)*.
Not printed.
78. Return to an Order of the House of the 2nd February, 1914, for a return showing the names of the sailors who have been employed on the *Eureka* during the years 1910, 1911, 1912 and 1913. Presented 12th February, 1915.—*Mr. Boulay*. Not printed.
79. Return to an Order of the House of the 15th April, 1914, for a return showing the total bond issue of the Canadian Northern Railway Company and its affiliated companies; and the total cost to date of the construction of the lines of railways comprising the Canadian Northern Railway system, including terminals, sidings, etc. Presented 12th February, 1915.—*Mr. Murphy*. Not printed.
80. Return to an Order of the House of the 18th May, 1914, for a copy of all papers, documents, reports and evidence relative to the dismissal or proposed dismissal of W. A. Case of the Government Quarantine Service at Halifax, N.S. Presented 12th February, 1915.—*Mr. McLean (Halifax)* Not printed.
81. Return to an Order of the House of the 26th February, 1914, for a return showing:—1. The freight rates charged during the years 1912 and 1913, on wheat from Canadian ports to ports in the United Kingdom by the Canadian Pacific Railway Company's Steamship Lines, the Allan Steamship Line and the Canadian Northern Railway Company's Steamship Lines. 2. The profits made by the freight boats of the said several lines which carried wheat alone or with other freight. Presented 12th February, 1915.—*Sir James Aikins*. Not printed.
82. Return to an Order of the House of the 16th February, 1914, for a copy of all reports, requests, petitions, memorials, letters, telegrams and other correspondence and documents relating to the removal, suspension or dismissal, by the management of the Intercolonial Railway, of Warren Carter and Frederick Avar, employees in the freight department of the Intercolonial Railway at Sackville, N.B.; and of all letters, telegrams and other correspondence in the Department of Railways and Canals, or in the railway offices at Moncton, or in any Department of Government, addressed to the Minister of Railways and Canals, or to any other member of the Government, or to any official of the Department of Railways and Canals, or of the Intercolonial Railway, by any person or persons in the county of Westmorland, N.B., in any manner relating to said employees and to the dispensing with their services, particularly of any letters sent to F. P. Brady, General Superintendent of the Intercolonial, by any party or parties in Sackville, N.B., or elsewhere, and of all replies to any such letters, correspondence or documents. Presented 12th February, 1915.—*Mr. Emmerson*.
Not printed.
83. Return to an Order of the House of the 23rd March, 1914, for a return showing:—1. What investigations and other work have been entrusted by the Government, or any Department thereof, to G. Howard Ferguson, member for the electoral division of the county of Grenville in the Legislative Assembly of the province of Ontario. 2. How much the said G. Howard Ferguson has been paid by the Government, or any Department thereof, for fees and disbursements since the 21st of September, 1911, and how much is still due and owing to him. 3. How much has been paid to the said G. Howard Ferguson by the Government or any Department thereof, since the 21st September, 1911, in connection with any other matter whatever. Presented 12th February, 1915.—*Mr. Proulx*. Not printed.
84. Further Supplementary Return to an Order of the House of the 28th April, 1913, for a return showing a list of all the newspapers in Canada in which advertisements have been inserted by the Government, or any minister, officer or department thereof, between 10th October, 1911, and the present date, together with a statement of the gross amount paid therefor between the above dates to each of said newspapers or to the proprietors of the same. Presented 12th February, 1915.—*Mr. Sinclair*. Not printed.
- 84a. Further Supplementary Return to an Order of the House of the 30th April, 1913, for a return showing a list of all the newspapers in Canada in which advertisements have been inserted by the Government, or any minister, officer or department thereof, between the 10th day of October, 1906, and 10th October, 1907, and between said dates in each of the years following up to the 10th October, 1911, together with a statement of the gross amount paid therefor for the years mentioned, to each of the said newspapers or the proprietors of the same. Presented 12th February, 1915.—*Mr. Thornton*.
Not printed.

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85. Partial Return to an Order of the House of the 4th March, 1914, for a return showing:—
 1. How many employees of the Federal Government of Canada, including all services and all departments, have been dismissed from 10th October, 1911, to the present date. 2. How many have resigned. 3. How many have deserted the service. 4. How many deserters have been punished. 5. How many new employees have been engaged or appointed by the present Government during the same period. Presented 12th February, 1915.—*Mr. Boivin*... ..*Not printed.*
- 85a. Return to an Order of the House of the 4th March, 1914, for a return showing:—
 1. How many employees of the Federal Government of Canada, including all services and all departments, have been dismissed from 10th October, 1911, to the present date. 2. How many have resigned. 3. How many have deserted the service. 4. How many deserters have been punished. 5. How many new employees have been engaged or appointed by the present Government during the same period. Presented 4th March, 1915.—*Mr. Boivin*... ..*Not printed.*
- 85b. Further Supplementary Return to an Order of the House of the 4th March, 1914, for a return showing:—1. How many employees of the Federal Government of Canada, including all services and all departments, have been dismissed from 10th October, 1911, to the present date. 2. How many have resigned. 3. How many have deserted the service. 4. How many deserters have been punished. 5. How many new employees have been engaged or appointed by the present Government during the same period. Presented 5th March, 1915.—*Mr. Boivin*... ..*Not printed.*
- 85c. Further Supplementary Return to an Order of the House of the 4th March, 1914, for a return showing:—1. How many employees of the Federal Government of Canada, including all services and all departments, have been dismissed from 10th October, 1911, to the present date. 2. How many have resigned. 3. How many have deserted the service. 4. How many deserters have been punished. 5. How many new employees have been engaged or appointed by the present Government during the same period. Presented 12th March, 1915.—*Mr. Boivin*... ..*Not printed.*
- 85d. Further Supplementary Return to an Order of the House of the 4th March, 1914, for a return showing:—1. How many employees of the Federal Government of Canada, including all services and all departments, have been dismissed from 10th October, 1911, to the present date. 2. How many have resigned. 3. How many have deserted the service. 4. How many deserters have been punished. 5. How many new employees have been engaged or appointed by the present Government during the same period. Presented 7th April, 1915.—*Mr. Boivin*... ..*Not printed.*
86. Further Supplementary Return to an Order of the House of the 18th February, 1914, for a copy of all charges, complaints, memorials, correspondence and telegrams, not already produced, relating to officials in any department of the Government since 10th October, 1911, the number of officials dismissed, reports of investigations held in respect of such charges, items of expenditure and costs of each investigation, the names of persons appointed to office in the place of dismissed officials, and of all recommendations received in behalf of persons so appointed in the province of Prince Edward Island. Presented 12th February, 1915.—*Mr. Hughes (Kings, I.E.I.)*
Not printed.
87. Partial Return to an Order of the House of the 18th May, 1914, for a return showing in all cases in which Charles Seager, of Goderich, acted as Government Commissioner in the investigation of officials charged with partizanship, or other offences, from and including the year 1896 to the year 1900; and the names of all officials dismissed by reason of the reports of the said Charles Seager, the positions held by such officials, and when such dismissals took place; with a copy of the evidence taken in all such cases, together with the commissioners reports thereon, and also showing what fees were paid to the said Charles Seager for conducting such investigations. Presented 12th February, 1915.—*Mr. Clark (Bruce)*... ..*Not printed.*
88. Return to an Order of the House of the 16th March, 1914, for a copy of all correspondence, letters, telegrams, complaints and of all other documents in any way referring to the operation of the salmon hatchery at North East Margaree, and the fish pond at Margaree Harbour from 1911 to date. Presented 15th February, 1915.—*Mr. Chisholm (Inverness)*... ..*Not printed.*
89. Return to an Address to His Royal Highness the Governor General of the 11th May, 1914, for a copy of all letters, telegrams, Orders in Council, contracts, tenders, papers and other documents in possession of the Department of Public Works, and of the Department of Militia and Defence, relating to the construction of an armoury at Amherst, N.S. Presented 15th February, 1915.—*Mr. Sinclair*... ..*Not printed.*
90. Letters of the Honourable Louis P. Pelletier, M.P., and the Honourable Wilfrid B. Nantel, M.P., resigning their positions as Postmaster General and Minister of Inland Revenue, respectively, and letters of the Prime Minister in acknowledgment thereof. Presented by Sir Robert Borden, 15th February, 1915... ..*Not printed.*

 CONTENTS OF VOLUME 28—*Continued.*

91. Report of Board of Officers on boots supplied to the Canadian Expeditionary Force. Presented by Hon. Mr. Hughes, 15th February, 1915. *Not printed.*
92. Regulations under "The Destructive Insect and Pest Act." Presented by Hon. Mr. Burrell, 16th February, 1915. *Not printed.*
93. Report on "The Agricultural Instruction Act," 1913-14, pursuant to Section 8 of the above named Act. Presented by Hon. Mr. Burrell, 16th February, 1915.
Printed for sessional papers only.
- 93a. Supplementary Return to an Address to His Royal Highness the Governor General of the 9th February, 1914, for a copy of all arrangements made between the Government and the various provinces under the Agricultural Instruction Act. Presented 19th February, 1915.—*Sir Wilfrid Laurier.* *Not printed.*
- 93b. Return to an Order of the House of the 20th April, 1914, for a copy of all documents, correspondence, letters, petitions, reports, etc., exchanged between Dr. C. C. James, Mr. J. C. Chapais and each of the Provincial Ministers of Agriculture, in connection with the distribution and the administration of the federal subsidy granted to the provinces for agricultural purposes since the granting of same. Presented 23rd February, 1915.—*Mr. Lapointe (Kamouraska).* *Not printed.*
94. Return to an Order of the House of the 11th February, 1914, for a copy of all telegrams, correspondence, instructions, recommendations, and other documents that passed between the Shellfish Fishery Commission of 1913, and the Department of Marine and Fisheries, from the date of the appointment of said Commission to 31st December, 1913, excluding such documents as have been printed in the published report of said Commission. Presented 16th February, 1915.—*Mr. Sinclair.* *Not printed.*
95. Return to an Order of the House of the 16th March, 1914, for a copy of all correspondence, tenders, telegrams, complaints and of all other documents in any way referring to the collecting of spawn for the Margaree Lobster Hatchery during the years 1911-12, 1912-13 and 1913-14. Presented 16th February, 1915.—*Mr. Chisholm (Inverness).*
Not printed.
96. Return to an Order of the House of the 10th February, 1915, for a return showing the amount of coal imported into Alberta, Saskatchewan and Manitoba, respectively, from the United States during the year 1914; also the amount of duty collected in each of the said provinces during the same year. Presented 16th February, 1915.—*Mr. Buchanan.* *Not printed.*
97. Copy of the Eighth Joint Report of the Commissioners for the Demarcation of the Meridian of the 141st Degree of West Longitude. Presented by Hon. Mr. Roche, 18th February, 1915. *Not printed.*
98. Return to an Order of the House of the 20th April, 1914, for a copy of the agreement between the Government of Canada and the Canadian Pacific Railway Company at the time the special land grant was made whereby the Canadian Pacific Railway Company were enabled to get their land grant in one block for the purpose of establishing their present irrigation system east of Calgary, province of Alberta. Presented 18th February, 1915.—*Mr. Burnham.* *Not printed.*
99. Return to an Order of the House of the 23rd March, 1914, for a copy of all letters, telegrams and other documents in connection with the sale of any timber on Parry Island, Parry Sound District, and of advertisements, agreements for purchase and any other documents connected with such sale or grant of timber to any person or persons. Presented 18th February, 1915.—*Mr. Arthurs.* *Not printed.*
100. Return to an Order of the House of the 11th February, 1914, for a return showing reasons for the dismissal of Mr. Larivière, Dominion Lands Agent at Girouard; the date of his appointment and of dismissal and salary at time of dismissal; also the name of agent appointed in his place, with date of appointment and salary. Presented 18th February, 1915.—*Mr. Oliver.* *Not printed.*
101. Annual Return respecting Trade Unions under Chapter 125, R.S.C., 1906. Presented by Hon. Mr. Coderre, 18th February, 1915. *Not printed.*
102. A detailed statement of all bonds or securities registered in the Department of the Secretary of State of Canada, since last return (21st January, 1914) submitted to the Parliament of Canada under Section 32 of Chapter 19, of the Revised Statutes of Canada, 1906. Presented by Hon. Mr. Coderre, 18th February, 1915. *Not printed.*

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103. Return to an Order of the House of the 9th February, 1914, for a copy of all petitions, memorials, letters, telegrams, papers, and documents received by any department of the Government of Canada, or any Minister of the Crown from any company, corporation, person or persons, requesting the removal of any customs duties upon wheat or wheat products entering Canada, or protesting against any diminution or removal of such custom's duties, and any replies thereto. Presented 18th February, 1915.—*Mr. Maclean (Halifax)*... ..*Not printed.*
104. Return to an Order of the House of the 20th April, 1914, for a copy of all correspondence, letters, documents or other papers relating to the cancellation of the entry of R. Bannatyne for the northwest $\frac{1}{4}$ of section 24, township 35, range 18, west of the 2nd meridian. Presented 19th February, 1915.—*Mr. Neely*... ..*Not printed.*
105. Return to an Order of the House of the 16th February, 1914, for a return showing the name of the postmaster of the Parish of St. Romuald, county of Lévis, who, it is said, was dismissed from office since September, 1911, the reasons for such dismissal, the nature of the complaints made against him, the names of the parties who made those complaints, together with a copy of all correspondence and telegrams relating thereto, the name of the inquiring commissioner, and report of investigation, if any, and of all evidence taken at the investigation, the names of those who recommended the successor, names of the parties by whom the Government was represented at such investigation, with a detailed statement of all the accounts paid or to be paid by any department in connection with the aforesaid dismissal and investigation, the names of the parties who received any money or filed their accounts in connection with said investigation, and the amount awarded to or claimed by each of them. Presented 19th February, 1915.—*Mr. Bourassa*... ..*Not printed.*
106. Return showing lands sold by the Canadian Pacific Railway Company during the year which ended on the 30th September, 1914. Presented by Hon. Mr. Roche, 19th February, 1915... ..*Not printed.*
107. Return to an Order of the House of the 10th June, 1914, for a return showing:—1. The amount of money sent through the post offices in the past five years outside Canada from the following Cape Breton post offices: Glace Bay, Caledonia Mines, Dominion No. 4, New Aberdeen, Bridgeford, Old Bridgeford, Reserve Mines, Sydney, Whitney Pier, Ashby, North Sydney, Sydney Mines, Florence, Dominion No. 6, and Port Marrien. 2. What countries was such money transmitted to. Presented 22nd February, 1915.—*Mr. Carroll*... ..*Not printed.*
108. Return to an Order of the House of the 15th February, 1915, for a copy of all correspondence, telegrams and other documents in connection with the removal from the customs service at Lethbridge, Alberta, of Brown Pipes and A. R. Gibbons. Presented 23rd February, 1915.—*Mr. Buchanan*... ..*Not printed.*
109. Return to an Order of the House of the 15th February, 1915, for a return giving the names of all the transports hired since 1st August, 1914, for the conveyance of troops, horses, stores and material to England, the name of each vessel owner, broker or other person through whom the vessel was chartered, the tonnage of each vessel, speed, rate paid per ton per week or month, minimum time for which engaged, date of agreement, date at which pay commenced, date at which pay ceased, and the total sum paid by the Government for hire and other charges. Presented 23rd February, 1915.—*Mr. Murphy*... ..*Not printed.*
110. Return to an Order of the House of the 15th February, 1915, for a return showing:—1. How many transport wagons were purchased for the Second and Third Contingents? 2. From whom they were purchased, and the name of each person or firm? 3. How many were purchased from each? 4. What was the price paid per wagon? 5. If any tenders were asked? 6. If any tenders were received that were not accepted? 7. If so, what was the price tendered at? Presented 23rd February, 1915.—*Mr. Nesbitt*.
Not printed.
111. Return to an Order of the House of the 11th February, 1915, for a return showing:—1. How many persons have been made prisoners of war since the declaration of war between the Allies, Germany and Austria? 2. Where they have been kept captive? 3. What is the name of each place of detention, and the name of the officer in charge of such place of detention? Presented 23rd February, 1915.—*Mr. Wilson (Laval)*.
Not printed.
- 111a. Return to an Order of the House of the 19th February, 1915, for a statement in detail of: The number of prisoners of war in this country; the number under parole; the number held in detention camps; the number of detention camps, where situated, how accessible, and the number of prisoners in each. The amount of cost to Canada in each of these camps, respectively, for subsistence, pay, clothing, transportation and supervision; the nature of work done by prisoners, and the total value of same to date. Presented 1st April, 1915.—*Mr. Clark (Red Deer)*... ..*Not printed.*

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112. Return to an Order of the House of the 15th February, 1915, for a copy of all letters, telegrams, minutes of investigation and other documents relating to the dismissal of James Brennan, fireman Intercolonial Railway at Stellarton. Presented 25th February, 1915.—*Mr. Macdonald*. *Not printed.*
113. Return to an Order of the House of the 11th February, 1915, for return showing if any official statement was given on behalf of the management of the Intercolonial Railway to the effect that wages would be paid in their absence to the employees of the railway who volunteered for active service. If so, when and by whom? If any order has been made by the Railway Department providing for such payment, and if so, when the said order was made. Presented 23rd February, 1915.—*Mr. Macdonald*. *Not printed.*
114. Return to an order of the House of the 9th February, 1915, for a copy of all papers, petitions, letters and telegrams exchanged between the Quebec Board of Trade and the Department of Railways and Canals concerning the circulation of trains on that section of the National Transcontinental Railway between Cochrane and Quebec City. Presented 23rd February, 1915.—*Mr. Lemieux*. *Not printed.*
115. Return (in so far as the Department of the Interior is concerned) of copies of all Orders in Council, plans, papers and correspondence relating to the Canadian Pacific Railway, which are required to be presented to the House of Commons, under a resolution passed on 20th February, 1882, since the date of the last return, under such resolution. Presented by Hon. Mr. Roche, 24th February, 1915. *Not printed.*
116. Return showing:—1. Who the Remount Commissioners are for Western and Eastern Canada respectively? 2. When and by whom they were appointed, and what their general instructions were? 3. Why were the mobilization orders 1913, which provide for the purchase of remounts, ignored and civilians put in charge of the purchase of remounts? 4. The names of the purchasers and inspecting veterinary officers appointed by the Remount Commissioner for Eastern Canada, in the various remount divisions? 5. If any of the purchasers and inspecting veterinary officers have been stopped buying. If so, what their names are, and the reasons given by the Remount Commissioner for his action? 6. How many horses have been purchased between 1st December and 31st January, in each remount division in Eastern Canada, and the average price paid per horse? 7. What the average cost per horse is in each remount division to cover the expenses, including pay or allowances and all travelling and other expenses, between the said dates. Presented 24th February, 1915.—*Mr. Lemieux*. *Not printed.*
117. Return showing:—1. From how many firms the Government have ordered ankle boots for the various contingents now being equipped for service? 2. The names of these firms? 3. How many ankle boots have been ordered from each firm? 4. How many ankle boots each firm have delivered up to date? 5. How many ankle boots each firm have yet to deliver? 6. The price that each firm is receiving for these ankle boots. Presented 24th February, 1915.—*Mr. Lemieux*. *Not printed.*
118. Return to an Order of the House of the 22nd February, 1915, for a copy of all correspondence, recommendations, tenders and other papers on file in the office of the Department of Railways and Canals relating to supplying ice for the Intercolonial Railway at Mulgrave for the year 1915. Presented 25th February, 1915.—*Mr. Sinclair*.
Not printed.
119. Return to an Order of the House of the 18th February, 1915, for a return showing:—1. How many motor trucks were sent with the first contingent to England? 2. From whom they were purchased, and by whom they were manufactured? 3. What their capacity was? 4. What price was paid for them? 5. If any expert was employed by the Government in connection with their purchase. If so, who? 6. If any commission was paid by the Government to any one in connection with their purchase? 7. If the trucks have given satisfaction in service. If not, what defects were exhibited? 8. If a committee was appointed by the Militia Department or the Government in regard to the purchase of motor trucks for the second and further contingents. If so, who comprised it, and what were their special qualifications? 9. If one, Mr. McQuarrie, was a member of this committee. If so, is it true he was, and is still, an employee of the Russell Motor Car Company of Toronto? 10. If one, Owens Thomas, was employed as expert on the said Committee? If so, what he was paid, or what he is to be paid for his services, and how long his services were utilized? 11. If Mr. Thomas received any commission in connection with the purchases of motor trucks either from the Government or the manufacturers? 12. What recommendations were made by the said committee to the Militia Department or the Government in connection with purchases of motor trucks? 13. If the trucks have been purchased. If so, how many, from whom, and at what price? 14. If it is true that these trucks were purchased from the Kelly Company, Springfield, Ohio. If so, could not efficient and suitable trucks have been procured from Canadian manufacturers? 15. If it is true that the Government has decided to go into the motor truck business by placing orders with Canadian manufacturers for parts, and supplying such parts to assemblers in Canada. If so, is it true that orders have been, or are being placed with the Russell Motor Car Company, to manufacture engines? 16. Who recommended Mr. Thomas to the Minister of the Militia or the Government? Presented 25th February, 1915.—*Mr. Copp*.
Not printed.

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120. Return to an Order of the House of the 15th February, 1915, for a return showing whether any exportations of food-stuffs have been made since 1st August last, to European countries, other than the United Kingdom, France and Belgium, and if so, their nature and what countries. Presented 25th February, 1915.—*Mr. Cockshutt.*
Not printed.
121. Return to an Order of the House of the 11th February, 1915, for a copy of the petition, papers, documents and letters in connection with the incorporation of the Dominion Trust Company, incorporated by Special Act of the Parliament of Canada in 1912, being Chapter 89 of 2 George V. Presented 25th February, 1915.—*Mr. Proulx.*
Not printed.
- 121a. Return to an Order of the House of the 11th February, 1915, for a copy of all the correspondence exchanged between the Department of Justice and the Government of the province of British Columbia, or any of its members, with regard to a certain Act passed by the Legislature of the said province in 1913, being Chapter 89 of 2 George V., entitled: "An Act respecting the Dominion Trust Company." Presented 4th March, 1915.—*Mr. Proulx.**Not printed.*
122. Return to an Order of the House of the 11th February, 1915, for a copy of all correspondence which has passed between the Auditor General and the Militia Department or any other department of the Government service in regard to the expenditure under the War Appropriation Act. Presented 25th February, 1915.—*Mr. Maclean (Halifax).*
Printed for distribution and sessional papers.
- 122a. Memorandum of the Accountant and Paymaster-General and the Director of Contracts of the Department of Militia and Defence, in respect to correspondence between the Auditor General and Militia Department, relating to expenditure under the War Appropriation Act. Presented by Hon. Mr. Hughes, 11th March, 1915.*Not printed.*
123. Copy of all correspondence between the Minister of Finance and the Auditor General from 18th August to date, respecting purchases for overseas contingents, army contracts, or other purchases for military purposes, or under the operation of the Naval Service Act of 1910, or under Orders in Council relating to military matters. Presented by Hon. Mr. White, 25th February, 1915.*Not printed.*
124. Certified copy of a report of the Committee of the Privy Council approved by His Royal Highness the Governor General on the 23rd January, 1915, on the subject of separation allowance to dependents of soldiers of the First Overseas Contingent. Presented by Hon. Mr. Rogers, 26th February, 1915.*Not printed.*
- 124a. Certified copy of a report of the Committee of the Privy Council approved by His Royal Highness the Governor General on the 28th January, 1915, in respect to applications from men who have enlisted in the corps raised for overseas service, to be allowed to marry and to have their wives placed on the separation allowance list. Presented by Hon. Mr. Rogers, 26th February, 1915.*Not printed.*
125. Return to an Order of the House of the 16th February, 1914, for a copy of all telegrams, correspondence, petitions and documents of all kinds in any way referring to a drill shed or armoury to be built at the town of Inverness, Inverness county, Nova Scotia. Presented 26th February, 1915.—*Mr. Chisholm (Inverness).**Not printed.*
126. Detailed statement of revenue of custom duties and refund thereof under Section 92 Consolidated Revenue and Audit Act, through the Department of Commerce for the fiscal year ended 31st March, 1914.—(*Senate*)*Not printed.*
127. Orders in Council which have been published in the *Canada Gazette* between the 1st December, 1913, and 11th January, 1915, in accordance with the provisions of Section 19, Chapter 10, 1-2 George V. "The Forest Reserves and Park Act."—(*Senate*).
Not printed.
- 127a. Return of Orders in Council which have been published in the *Canada Gazette*, between the 16th May, 1914, and 25th July, 1914, in accordance with the provisions of "The Forest Reserves and Park Act," Section 19, of Chapter 10, 1-2 George V. Presented by Hon. Mr. Roche, 12th March, 1915.*Not printed.*
128. Orders in Council which have been published in the *Canada Gazette* between 1st December, 1913, and 15th January, 1915, in accordance with the provisions of Section 5, of Chapter 21, 7-8 Edward VII, "The Dominion Lands Survey Act."—(*Senate*).
Not printed.
- 128a. Return of Orders in Council which have been published in the *Canada Gazette*, between 24th January, 1914, and 6th February, 1915, in accordance with the provisions of Section 77 of "The Dominion Lands Act," Chapter 20 of the Statutes of Canada, 1908. Presented by Hon. Mr. Roche, 12th March, 1915.*Not printed.*

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- 128*b*. Return of Orders in Council which have been published in the *Canada Gazette* and in the *British Columbia Gazette*, between 11th April, 1914, and 10th December, 1914, in accordance with provisions of Subsection (d) of Section 38 of the regulations for the survey, administration, disposal and management of Dominion Lands within the 40-mile railway belt in the province of British Columbia. Presented by Hon. Mr. Roche, 12th March, 1915. *Not printed.*
- 128*c*. Orders in Council which have been published in the *Canada Gazette* and in the *British Columbia Gazette*, between 1st December, 1913, and the 15th January, 1915, in accordance with the provisions of Subsection (d) of Section 38 of the Regulations for the survey, administration, disposal and management of Dominion Lands within the 40-mile railway belt in the province of British Columbia.—(*Senate*) *Not printed.*
129. Orders in Council passed between 1st December, 1913 and 15th January, 1915, approving of regulations and forms prescribed in accordance with the provisions of Section 57 of the Irrigation Act, Chapter 61, Revised Statutes of Canada, 1906, as amended by Chapter 33, 7-8 Edward VII.—(*Senate*) *Not printed.*
130. Return to an Order of the House of the 25th February, 1915, for a return showing whether the Government purchased from the Canada Cycle and Motor Company tires for motor trucks for the first Canadian Contingent and, if so, the price paid per set and the number purchased; also whether the Government have obtained prices for tires for motor trucks for the second contingent and, if so, the prices per set so obtained. Presented 3rd March, 1915.—*Mr. Gauvreau.* *Not printed.*
131. Return to an Order of the House of the 15th February, 1915, for a copy of all correspondence, telegrams and other documents in connection with the appointment of A. H. McKeown to the immigration service at Lethbridge, Alberta. Presented 3rd March, 1915.—*Mr. Buchanan.* *Not printed.*
132. Return to an Order of the House of the 15th February, 1915, for a copy of all correspondence, telegrams and other documents in connection with the removal from office of A. E. Humphries, Inspector of Immigration at Lethbridge, Alberta. Presented 3rd March, 1915.—*Mr. Buchanan.* *Not printed.*
133. Return to an Order of the House of the 3rd June, 1914, for a return showing:—1. Who secured the mail contract between Armagh Station and Mailloux, county of Bellechasse, Que.? 2. How many tenders were received? 3. The names of the tenderers, and the amount of each tender? Presented 3rd March, 1915.—*Mr. Lemieux.* *Not printed.*
134. Return to an Order of the House of the 6th April, 1914, for a copy of all letters, telegrams, correspondence, complaints, and documents of all kinds in any way connected with the asking for tenders for the mail route between Low Point and Creignish Station during the years 1913-14. Presented 3rd March, 1915.—*Mr. Chisholm (Inverness).* *Not printed.*
135. Return to an Order of the House of the 6th April, 1914, for a copy of all letters, telegrams and other documents relative to the mail contract between New Ross and Vaughans post office, Waterville, province of Nova Scotia. Presented 3rd March, 1915.—*Mr. Macdonald.* *Not printed.*
136. Return to an Order of the House of the 18th May, 1914, for a copy of all correspondence, telegrams, letters and documents of all kinds in possession of the Post Office Department received since 1913, up to the present date in any way referring to the mail contract from Mabou to Wycocomagh. Presented 3rd March, 1915.—*Mr. Chisholm (Inverness)* *Not printed.*
137. Return to an Order of the House of the 25th February, 1915, for a return showing:—1. The amount of money collected by sub-collectors of customs at Edmundston, N.B., at Clair, N.B., at St. Leonards, N.B., and at Green River, N.B., each and every year for the last five fiscal years. 2. The salaries paid in connection with each of said ports each year. Presented 3rd March, 1915.—*Mr. Michaud.* *Not printed.*
138. Return to an Order of the House of the 10th February, 1915, for a return showing how much money has been spent amongst the merchants of the city of Medicine Hat for Government relief, to whom the payments were made and the total amount in each case. Presented 4th March, 1915.—*Mr. Buchanan.* *Not printed.*
139. Return to an Order of the House of the 2nd February, 1914, for a copy of all letters, correspondence, papers and documents relating to the dismissal of the following persons from the below mentioned offices in Shelburne County, N.S.:—J. V. Smith, sub-collector of customs at Lower Woods Harbour; John H. Lyons, keeper of lightship, Barrington Passage; William L. Smith, lightkeeper, Baccaro; E. D. Smith, fishery overseer, Shag Harbour; J. A. Orechia, harbour master, Woods Harbour; J. C. Morrison, harbour master, Shelburne; and Albert Mahaney, postmaster at Churchover. Presented 4th March, 1915.—*Mr. Maclean (Halifax)* *Not printed.*

 CONTENTS OF VOLUME 28—*Continued.*

- 139a. Return to an Order of the House of the 24th February, 1915, for a copy of all letters, papers and documents relating to the dismissal of the following officers in Shelburne County, N.S.: Wm. L. Smith, lightkeeper, Baccaro, N.S.; J. A. Arechia, harbour master, Lower Wood Harbour, and J. C. Morrison, harbour master, Shelburne, N.S. Presented 16th March, 1915.—*Mr. Law*.*Not printed.*
140. Return to an Order of the House of the 9th March, 1914, for a return showing:—1. The amounts of money expended by this Government in the county of Portneuf from the 1st of July, 1896, to the 21st September, 1911. 2. The nature of the work done in each parish. 3. In what year such work was executed, and what amount was expended in each case. Presented 4th March, 1915.—*Mr. Sevigny*.*Not printed.*
141. Return to an Order of the House of the 22nd February, 1915, for a copy of all papers, petitions, declarations, affidavits, sworn statements, requests, certificates and all other documents in connection with the naturalization of F. P. Gutelius, General Manager of the Intercolonial Railway. Presented 4th March, 1915.—*Mr. Gauvreau*.*Not printed.*
142. Report of the delegates appointed to represent the Government of Canada at the Eighth International Purity Congress, held under the auspices of the World's Purity League, at Kansas City, Mo., November 5th-9th, 1914. Presented by Sir Robert Borden, 4th March, 1915.*Not printed.*
143. Return to an Address to His Royal Highness the Governor General of the 22nd February, 1915, for a copy of all complaints to the Government of the killing of one American citizen and the shooting of another by militia men, in the waters of Lake Erie, and of all correspondence with regard to the same with the British Embassy and American authorities. Presented 5th March, 1915.—*Sir Wilfrid Laurier*.*Not printed.*
144. Return to an Order of the House of the 24th February, 1915, for a return showing the amounts in detail paid to Ward Fisher, of Shelburne, N.S., fishery inspector, for the years 1912 and 1913, for salary, office expenses, travelling expenses, and all other expenses. Presented 5th March, 1915.—*Mr. Law*.*Not printed.*
145. Return to an Order of the House of the 15th February, 1915, for a return showing the names and addresses of all persons in Yarmouth County to whom the bounty under the Fenian Raid Volunteer Bounty Act has been paid; the names and addresses of all persons from said county whose applications have been rejected, and a list giving names and addresses of all applicants from said county whose applications have not yet been disposed of. Presented 5th March, 1915.—*Mr. Law*.*Not printed.*
146. Return to an Order of the House of the 19th February, 1915, for a return showing the names and post office addresses of all persons in Guysborough County, N.S., to whom the bounty under the Fenian Raid Volunteer Bounty Act has been paid; the names and post office addresses of all persons whose applications have been rejected, and the reason for such rejections; also the names and post office addresses of all persons whose applications have been received but have not yet been paid, distinguishing between those who have been dealt with and allowed, and such applications as have been received but not yet considered, if any. Presented 5th March, 1915.—*Mr. Sinclair*.*Not printed.*
147. Return to an Order of the House, of the 12th February, 1915, for a return showing:—1. How many applications for seed grain have been received from residents of the three prairie provinces since June, 1914? 2. How many bushels of grain were included in the applications? 3. How many acres of land were to be seeded by the grain applied for? 4. How many bushels of wheat, oats and barley, respectively, the Government has on hand with which to meet the applications? 5. If arrangements have been made under which the several Provincial Governments will assist in meeting the needs of the settlers for seed grain? Presented 8th March, 1915.—*Mr. McCraney*.*Not printed.*
148. Return to an Order of the House, of the 2nd February, 1914, for a return showing the number of ships chartered by the Government or any department thereof since October, 1911, to go to Hudson's Bay or James Bay; the name of each and the tonnage; the name and residence of each commanding officer; what cargo each carried, and what portion was landed, and where, what was lost and where, and what returned; with the values in each case. Presented 8th March, 1915.—*Mr. Graham*.*Not printed.*
- 148a. Return to an Order of the House of the 3rd March, 1915, for a return showing the number of ships employed by the Railway Department, the number of men hired on vessels and on shore, and the amount expended for supplies, men and transportation from 31st March, 1914, to 31st December, 1914, in connection with the Hudson Bay Railway expenditures. Presented 22nd March, 1915.—*Mr. Macdonald*.*Not printed.*
149. Return to an Address to His Royal Highness the Governor General, of the 9th February, 1914, for a copy of all correspondence since the 1st January last with regard to the calling of an Imperial Conference on the subject of naval defence. Presented 8th March, 1915.—*Sir Wilfrid Laurier*.*Not printed.*

CONTENTS OF VOLUME 28—Continued.

- 150.** Return to an Order of the House, of the 11th February, 1915, for a return showing the names and addresses of all persons in Antigonish County to whom the bounty under the Fenian Raid Volunteer Bounty Act has been paid; the names and addresses of all persons from said county whose applications have been rejected, and a list giving names and addresses of all applications from said county whose applications have not yet been disposed of. Presented 8th March, 1915.—*Mr. Chisholm (Antigonish)*.
Not printed.
- 151.** Return to an Order of the House, of the 3rd March, 1915, for a return showing:—1. Who were the different officers commissioned to the 17th Nova Scotia Regiment at Valcartier before they sailed for England? 2. Who are now the commissioned officers of said regiment. Presented 8th March, 1915.—*Mr. Macdonald* Not printed.
- 152.** Return to an Order of the House, of the 9th February, 1915, for a copy of all accounts of the transfer of the storm signal at Shippigan, N.B., from its former position on land to the public wharf, showing the total cost of said transfer during the months of October and November in 1911. Presented 8th March, 1915.—*Mr. Turgeon*.
Not printed.
- 153.** Return to an Order of the House, of the 4th May, 1914, for a copy of all correspondence, telegrams, petitions, including the signatures of such petitions, and all other documents and papers in the possession of the Department of Trade and Commerce, or the minister of said department, or in the possession of the Prime Minister, relating to any application made between 1st November, 1913, and date hereof by parties in Nova Scotia asking for Government assistance towards the transportation of fresh fish between ports in Nova Scotia and the United States. Presented 9th March, 1915.—*Mr. Sinclair*.
Not printed.
- 154.** Statement of Mr. H. C. Crowell, staff correspondent of the *Halifax Chronicle*, and correspondence in connection with statements appearing in the press referring to alleged ill-treatment of the 17th Regiment of Nova Scotia, at Salisbury Plains. Presented by Sir Robert Borden, 9th March, 1915. Not printed.
- 155.** Return to an Order of the House, of the 3rd March, 1915, for a return showing:—1. The estimated cost of fitting up the works of the Canadian Car and Foundry Company, Limited, at Amherst, N.S., for military purposes. 2. The rent or other remuneration being paid, or will be paid, this company for the use of its buildings. 3. Who are to supply the military provisions, including food for men, coal for heating and cooking, and food and other supplies for horses quartered on these premises, and at what prices. 4. Whether it is true that forms for tendering for such military supplies could only be obtained from the office of the sitting member for Cumberland County, and in several cases forms of tender were refused to applicants. 5. Whether the Government is aware that in the case of the supplying of hay, as alleged, not only Liberals were not allowed to tender for same, but supporters of the Government were informed they would not secure any part of the contract, if any of the hay to be supplied was to be purchased from a Liberal. Presented 11th March, 1915.—*Mr. Copp* Not printed.
- 156.** Return to an Address to His Royal Highness the Governor General, of the 1st March, 1915, for a copy of all correspondence of the Imperial authorities on the subject of loans from the Imperial Treasury to the Canadian Government. Presented 11th March, 1915.—*Mr. Maclean (Halifax)* Not printed.
- 157.** Return to an Order of the House of the 3rd March, 1915, for a copy of all correspondence, recommendations, letters and telegrams relating to the appointment of H. W. Ingraham as Assistant Registrar of Alien Enemies at Sydney, N.S., and to his dismissal from the said office. Presented 12th March, 1915.—*Mr. Kyte* Not printed.
- 158.** Return to an Address to His Royal Highness the Governor General of the 11th February, 1915, for a copy of all correspondence relating to the purchase of, and payment by the Government for two submarines authorized by Order in Council dated the 7th August, 1914, and of any other Order or Orders in Council relating thereto; and also of all reports received by the Government or any department thereof referring to said submarines. Presented 12th March, 1915.—*Mr. Pugsley* Printed for distribution only.
- 158a.** Supplementary Return to an Address to His Royal Highness the Governor General, of the 11th February, 1915, for a copy of all correspondence relating to the purchase of, and payment by the Government for two submarines authorized by Order in Council dated the 7th August, 1914, and of any other Order or Orders in Council relating thereto; and also of all reports received by the Government or any department thereof referring to said submarines. Presented 15th March, 1915.—*Mr. Pugsley*.
Printed for distribution only.

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- 158b. Further Supplementary Return to an Address to His Royal Highness the Governor General, of the 11th February, 1915, for a copy of all correspondence relating to the purchase of, and payment by the Government for two submarines authorized by Order in Council dated the 7th August, 1914, and of any other Order or Orders in Council relating thereto; and also of all reports received by the Government, or any department thereof, referring to said submarines. Presented 24th March, 1915.—*Mr. Pugsley.*
Printed for distribution only.
159. Return to an Order of the House of the 19th February, 1915, for a copy of all correspondence, telegrams, petitions, letters and all other documents in any way referring to the dismissal of Mr. Mallet, captain of the life-boat in the life-saving station at Cheticamp, and the appointment of his successor. Presented 12th March, 1915.—*Mr. Chisholm (Antigonish)**Not printed.*
160. Return to an Order of the House of the 3rd March, 1915, for a copy of all letters, papers and other documents relating to the discharge of Dr. John McKenzie as medical doctor to the Indians of Pictou County, and to the appointment of Dr. Keith as his successor. Presented 12th March, 1915.—*Mr. Macdonald**Not printed.*
161. Return to an Order of the House of the 15th February, 1915, for a copy of all correspondence, letters, telegrams, instructions, reports and other documents relating to an application by Udo F. Schrader for a grazing lease in townships 40 and 41, range 7, west of the 3rd meridian, province of Saskatchewan. Presented 12th March, 1915.—*Mr. McCraney**Not printed.*
162. Return to an Order of the House of the 3rd March, 1915, for a return showing the names of all applicants for Fenian Raid Bounty in the county of Pictou who have not yet been paid their bounty. Presented 15th March, 1915.—*Mr. Macdonald**Not printed.*
- 162a. Return to an Order of the House of the 19th February, 1915, for a return showing the names and addresses of all persons in the county of Pictou who have been paid the Fenian Raid Bounty, and of all persons in said county who have made application for said bounty, and who have not yet received it. Presented 15th March, 1915.—*Mr. Macdonald**Not printed.*
163. Return to an Order of the House of the 4th March, 1915, for a return showing:—1. From whom food for men and horses, and all other supplies and equipment for the Field Battery now being trained at Lethbridge, is bought? 2. If by tender, the date tenders were called for? 3. When tenders were opened and contracts awarded? 4. The names and post office addresses of all parties who submitted tenders? 5. The successful tenderers, and the price in each case. Presented 15th March, 1915.—*Mr. Buchanan**Not printed.*
164. Return to an Order of the House, of the 1st March, 1915, for a copy of all petitions, reports, recommendations, letters, telegrams and correspondence relating to the dredging of Antigonish Harbour and the opening or improving of the entrance thereto, received by the Government, or any department thereof, since the 1st January, 1912, and not already included in the return presented the 30th of April, 1914, in obedience to the Order of the House passed the 16th March, previously. Presented 15th March, 1915.—*Mr. Chisholm (Antigonish)**Not printed.*
165. Copy of Order in Council dated 9th March, 1915, restricting the transfer of British ships. Presented by Hon. Mr. Hazen, 16th March, 1915*Not printed.*
166. Report of the Commissioners appointed to investigate and report upon the water levels of the River St. Lawrence at and below Montreal, together with a brief summary prepared by the Chief Hydrographer of the Survey. Presented by Hon. Mr. Hazen, 16th March, 1915*Not printed.*
167. Return to an Order of the House of the 3rd March, 1915, for a copy of all letters, telegrams, papers and other documents relating to the mail contract between Chance Harbour and Trenton, Pictou County, in regard to the existing contract. Presented 18th March, 1915.—*Mr. Macdonald**Not printed.*
168. Return to an Order of the House of the 19th February, 1915, for a copy of all correspondence and other documents relating to the awarding of the mail contract at Maria Capes, Bonaventure County, in 1914. Presented 18th March, 1915.—*Mr. Marcell.*
Not printed.
169. Return to an Order of the House of the 15th February, 1915, for a copy of all tenders, letters and telegrams, including first and second call for tenders, for rural mail delivery in the township of Dundee, county of Huntingdon. Presented 18th March, 1915.—*Mr. Robb**Not printed.*

 CONTENTS OF VOLUME 28—*Continued.*

170. Return to an Order of the House of the 11th February, 1915, for a copy of all petitions, letters, telegrams and correspondence regarding a proposed daily mail service between Lower South River and South Side Harbour, Antigonish County, and improved postal accommodation for the residents of the last-named district. Presented 17th March, 1915.—*Mr. Chisholm (Antigonish)*... ..*Not printed.*
171. Return to an Order of the House of the 1st March, 1915, for a copy of all letters, documents, telegrams, recommendations, petitions and other papers received by the Post Office Department since 1st January, 1914, relating to the contract for carrying the mails between Guysborough and Canso, N.S. Presented 18th March, 1915.—*Mr. Sinclair*... ..*Not printed.*
172. Return to an Order of the House of the 22nd February, 1915, for a return showing: 1. The total number of employees, both permanent and temporary, at the following post offices: Montreal, Toronto, Winnipeg, Halifax, Quebec, St. John, N.B., and Vancouver. 2. The total amount of salaries paid in each case. 3. The total number of employees, and the amount of salaries paid in the above offices on the 1st of October, 1911. Presented 18th March, 1915.—*Mr. Lemieux*... ..*Not printed.*
173. Return to an Order of the House of the 19th February, 1915, for a copy of all correspondence, telegrams, letters, petitions and documents of all kinds in any way referring to a proposed change in the mail route from Inverness railway station to Margaree Harbour. Presented 18th March, 1915.—*Mr. Chisholm (Inverness)*... ..*Not printed.*
174. Return to an Order of the House of the 8th March, 1915, for a return showing:—1. From how many firms or individuals the Government, or any department thereof, has ordered soldiers uniforms since the 1st of July, 1914. 2. The names of these firms. 3. How many Oliver equipments have been ordered from each firm. 4. How many of these uniforms each firm has delivered up to date. 5. How many each firm has yet to deliver. 6. The price each firm is receiving for these uniforms. Presented 18th March, 1915.—*Mr. Murphy*... ..*Not printed.*
175. Return to an Order of the House of the 8th March, 1915, for a return showing:—1. From how many firms or individuals the Government, or any department thereof, has ordered Oliver equipments since the 1st of July, 1914? 2. The names of these firms? 3. How many Oliver equipments have been ordered from each firm? 4. How many each firm has delivered up to date? 5. How many each firm has yet to deliver? 6. The price each firm is receiving for these Oliver equipments? Presented 18th March, 1915.—*Mr. Murphy*... ..*Not printed.*
176. Return to an Order of the House of the 11th March, 1915, for a copy of all letters, correspondence, etc., relating to the appointment of William Gore Foster, of Dartmouth, N.S., to the position of Inspector of Indian Reserves. Presented 18th March, 1915.—*Mr. Carroll*... ..*Not printed.*
177. Return to an Order of the House of the 15th February, 1915, for a copy of all letters, telegrams, correspondence, leases, and other documents relating to the cutting of lumber by Mr. B. F. Smith, and others, from the so-called Tobique Indian Reserve in the province of New Brunswick since the twelfth day of March, A.D. 1914, and also of all agreements, offers and promises made either by the said B. F. Smith or the Department of Indian Affairs, with reference to the sale or disposal of any of the said Tobique Indian Reserve since the said date, or any logs or lumber cut thereon. 2. Also a statement of all lumber cut by the said B. F. Smith from the said reserve, the rates of stumpage charged, and the amounts actually paid thereon from the first day of January, 1912, down to the date hereof. Presented 18th March, 1915.—*Mr. Carvell*.
Not printed.
178. Return to an Order of the House of the 8th March, 1915, for a return showing:—1. The number of customs officers employed at the customs port of Masonville, Quebec, on 20th September, 1911. 2. The names of these officers. 3. The salary each one received. 4. The total amount of salaries paid the officers at this port. 5. The number of customs officers employed at the port of Masonville at the present time. 6. The names of these officers. 7. The salary each one receives. 8. The total amount of salaries paid to the officers at this port. Presented 18th March, 1915.—*Mr. Kay*... ..*Not printed.*
179. Return to an Order of the House of the 8th March, 1915, for a return showing:—1. The number of customs officers employed at the customs port of Highwater, Quebec, on 20th September, 1911. 2. The names of these officers. 3. The salary each one received. 4. The total amount of salaries paid the officers at this port. 5. The number of customs officers employed at the port of Highwater at the present time. 6. The names of these officers. 7. The salary each one receives. 8. The total amount of salaries paid to the officers at this port. Presented 18th March, 1915.—*Mr. Kay*... ..*Not printed.*

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180. Return to an Order of the House of the 8th March, 1915, for a return showing:—1. The number of customs officers employed at the customs port of Abercorn, Quebec, on 20th September, 1911. 2. The names of these officers. 3. The salary each one received. 4. The total amount of salaries paid the officers at this port. 5. The number of customs officers employed at the port of Abercorn at the present time. 6. The names of these officers. 7. The salary each one receives. 8. The total amount of salaries paid to the officers at this port. Presented 18th March, 1915.—*Mr. Kay*... *Not printed.*
181. Return to an Order of the House, of the 1st March, 1915, for a copy of all petitions, letters, communications and other documents relating to or bearing upon the dismissal of Leonard Hutchinson, chief keeper at Dorchester penitentiary. Presented 18th March, 1915.—*Mr. Copp*... *Not printed.*
182. Return to an Order of the House of the 22nd February, 1915, for a copy of all letters, telegrams and papers generally concerning the proposed construction of a bridge to connect Isle Perrot with the mainland at Vaudreuil. Presented 18th March, 1915.—*Mr. Boyer*... *Not printed.*
- 182a. Return to an Order of the House of the 22nd February, 1915, for a copy of all letters, telegrams and papers generally concerning the proposed construction of a bridge between the Island of Montreal and the Mainland at Vaudreuil. Presented 18th March, 1915.—*Mr. Boyer*... *Not printed.*
183. Return to an Order of the House of the 22nd February, 1915, for a return showing:—1. What properties have been acquired by the Government in the City of Regina since 21st September, 1911? 2. The descriptions of such properties by metes and bounds? 3. For what purposes such properties were acquired? 4. From whom such properties were purchased? 5. The total price and the price per foot paid for each property? 6. If any such property was acquired by expropriation, what tribunal determined the price to be paid for any property so expropriated? 7. The dates on which any such properties were acquired? Presented 18th March, 1915.—*Mr. Martin (Regina)*.
184. Return to an Order of the House of the 19th February, 1915, for a copy of all letters, telegrams, memoranda, pay-lists, recommendations and any other documents whatsoever in any wise appertaining to the construction of a wharf at Lower Burlington, in the County of Hants. Presented 18th March, 1915.—*Mr. Chisholm (Inverness)*.
Not printed.
185. Return to an Order of the House of the 24th February, 1915, for a copy of pay-rolls and all correspondence and vouchers in connection with the repairs to Jordan breakwater, Shelburne county, for which Leander McKenzie was contractor of works or foreman. Presented 18th March, 1915.—*Mr. Law*... *Not printed.*
186. Return to an Order of the House of the 24th February, 1915, for a copy of all letters, telegrams, correspondence and pay-rolls in connection with repairs and extension of breakwater at Bluff Head, Yarmouth county, N.S., during year 1914. Presented 18th March, 1915.—*Mr. Law*... *Not printed.*
187. Return to an Order of the House of the 22nd February, 1915, for a return showing the amounts expended by the Public Works Department in the County of Inverness each year from 1896 down to 1915. Presented 18th March, 1915.—*Mr. Chisholm (Inverness)*... *Not printed.*
188. Return to an Order of the House of the 24th February, 1915, for a copy of all letters, telegrams, correspondence and pay-sheets in connection with the repairs and other work on the breakwater at Sandford, Yarmouth County, N.S., during the year 1914. Presented 18th March, 1915.—*Mr. Law*... *Not printed.*
189. Return to an Order of the House of the 1st March, 1915, for a copy of all papers, letters, petitions and other documents relating to a mail contract with David D. Heard & Sons, between Whitby and Grand Trunk Railway station, or with one John Gimblet, Whitby. Presented 19th March, 1915.—*Mr. Pardee*... *Not printed.*
190. Copies of Reports of the Committee of the Privy Council, approved by His Royal Highness the Governor General, relating to certain advances made to the Canadian Northern Railway Company and the Grand Trunk Pacific Railway Company, respectively, together with copies of agreements made between the said companies and His Majesty. Presented by Hon. Mr. White, 19th March, 1915... *Not printed.*
191. Return to an Order of the House of the 11th February, 1915, for a copy of all tenders received by the Post Office Department for the mail service between Caranquet and Tracadie, Gloucester County, N.B., on the 15th day of January last, with the names of the tenderers, the respective amounts of the tenders, and the name of the new contractor. Presented 19th March, 1915.—*Mr. Turgeon*... *Not printed.*

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192. Return to an Order of the House of the 8th March, 1915, for a return showing:—1. The fractional areas of homestead lands or otherwise in the province of Saskatchewan sold in the year 1914. 2. The name of the purchaser, and the price paid in each case. Presented 22nd March, 1915.—*Mr. Martin (Regina)*... ..*Not printed.*
193. Return to an Order of the House of the 25th February, 1915, for a return showing, in reference to the answer to question No. 6 of 9th February, and answered 15th February as per page 161 unrevised *Hansard*, the cost of furnishing the Government offices in each of the said buildings. Presented 22nd March, 1915.—*Mr. Turriff*... ..*Not printed.*
194. Return to an Order of the House of the 1st March, 1915, for a return showing the amount of railway subsidies paid in the county of Inverness since 1896, to date, and the dates on which such subsidies were paid. Presented 22nd March, 1915.—*Mr. Chisholm (Inverness)*... ..*Not printed.*
195. Return to an Order of the House of the 1st March, 1915, for a copy of all letters, papers, telegrams and other documents relating to the purchase or lease of the railway from New Glasgow to Thorburn, in the county of Pictou, known as the Vale Railway, from the Acadia Coal Company, since January, 1911, to date. Presented 22nd March, 1915.—*Mr. Macdonald*... ..*Not printed.*
196. Return to an Order of the House of the 1st March, 1915, for a copy of all papers, letters, telegrams, correspondence, contracts, etc., in connection with the sale of the hay grown or the lease of certain tracts of land belonging to the Intercolonial Railway, upon which hay is grown, and which are contiguous to the properties of Charles Lavoie, Cléophas Leclerc and Joseph Parent of the Parish of Bic, county of Rimouski. Presented 22nd March, 1915.—*Mr. Lapointe (Kamouraska)*... ..*Not printed.*
197. Return to an Order of the House of the 3rd March, 1915, for a copy of all letters, papers, telegrams, evidence taken at investigations, reports and all other documents relating to the suspension or other action in regard to the charge of drunkenness against Newton Hopper, conductor on the Intercolonial Railway, and to his subsequent reinstatement. Presented 22nd March, 1915.—*Mr. Macdonald*... ..*Not printed.*
198. Return to an Order of the House of the 1st March, 1915, for a copy of all letters, telegrams and other papers relating to the dismissal of Bruce Wiswell, as sectionman on the Intercolonial Railway at Stellarton, Nova Scotia. Presented 22nd March, 1915.—*Mr. Macdonald*... ..*Not printed.*
199. Return to an Order of the House of the 22nd February, 1915, for a return showing:—1. The inward tonnage freight, and also the outward tonnage freight respectively, at Loggieville station of the Intercolonial Railway for each month of 1914, and also for the month of January, 1915. 2. The inward tonnage freight, and the outward tonnage freight at Chatham station, on the Intercolonial Railway for each month of 1914, and also for the month of January, 1915. 3. The inward tonnage freight, and the outward tonnage freight at Newcastle station on the Intercolonial Railway for each month of 1914, and also for the month of January, 1915. 4. The local and through passenger traffic to and through each of the above stations, respectively, during each of the months above mentioned. Presented 22nd March, 1915.—*Mr. Loggie*... ..*Not printed.*
200. Return to an Order of the House of the 15th February, 1915, for a copy of all letters, telegrams and correspondence had by Margaret Lynch, or any person representing her, with reference to the expropriation of certain land belonging to the said Margaret Lynch in the city of Fredericton, province of New Brunswick, by the Intercolonial Railway, and also of all letters, telegrams and correspondence had with F. P. Gutelius or any other official of the Intercolonial Railway with reference thereto. Presented 22nd March, 1915.—*Mr. Carvell*... ..*Not printed.*
201. Return to an Order of the House of the 3rd March, 1915, for a copy of all documents bearing on the payment made to C. R. Scoles, New Carlisle, Quebec, in July, 1914, of balance of subsidy voted to the Atlantic and Lake Superior Railway on the recommendation of the Financial Comptroller. Presented 22nd March, 1915.—*Mr. Marcil*... ..*Not printed.*
202. Return to an Order of the House of the 1st March, 1915, for a copy of all letters, telegrams, correspondence and reports relating to the purchase of the New Brunswick and Prince Edward Island Railway, extending from Sackville to Cape Tormentine, county of Westmorland. Presented 22nd March, 1915.—*Mr. Copp*... ..*Not printed.*
203. Return to an Order of the House of the 1st March, 1915, for a copy of the tariff on flour shipments now in force on the Quebec, Oriental Railway and the Atlantic, Quebec and Western Railway. Presented 22nd March, 1915.—*Mr. Marcil*... ..*Not printed.*

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- 204.** Return to an Order of the House of the 22nd February, 1915, for a copy of all petitions, correspondence, complaints, reports and other documents relating to the dismissal of Alfred H. Bonnyman, postmaster of Mattatall Lake, in the county of Colchester, N.S. Presented 24th March, 1915.—*Mr. Sinclair* *Not printed.*
- 205.** Return to an Address to His Royal Highness the Governor General, of the 1st March, 1915, for a copy of all correspondence, documents, charges, evidence, findings and Orders in Council in reference to the dismissal of John Thomas, postmaster at Hammond's Plain, Halifax County, N.S. Presented 24th March, 1915.—*Mr. Maclean (Halifax)* *Not printed.*
- 205a.** Supplementary Return to an Address to His Royal Highness the Governor General, of the 1st March, 1915, for a copy of all correspondence, documents, charges, evidence, findings and Orders in Council in reference to the dismissal of John Thomas, postmaster at Hammond's Plain, Halifax County, N.S. Presented 8th April, 1915.—*Mr. Maclean (Halifax)* *Not printed.*
- 206.** Certified copy of a Report of the Committee of the Privy Council, approved by His Royal Highness the Governor General, with reference to the question of providing adequate pensionary assistance for officers and men disabled or partially disabled on active service or for the dependents of such officers and men should they be killed on active service. Presented by Sir Robert Borden, 24th March, 1915. *Not printed.*
- 207.** Return to an Order of the House of the 8th March, 1915, for a return showing:—1. From how many firms or private individuals the Government, or any department of the Government has ordered saddles since the 1st of July, 1914? 2. The names of these firms? 3. How many saddles have been ordered from each firm? 4. How many saddles each firm has delivered up to date? 5. How many saddles each firm has yet to deliver? 6. The price each firm is receiving for these saddles? Presented 26th March, 1915.—*Mr. Murphy* *Not printed.*
- 208.** Return to an Order of the House of the 8th March, 1915, for a copy of all correspondence, letters, telegrams and other documents relating to the dismissal of Mr. P. B. Hurlbert, postmaster at Springdale, Yarmouth County, N.S., and the removal of the office. Presented 30th March, 1915.—*Mr. Law* *Not printed.*
- 209** Return to an Order of the House of the 8th March, 1915, for a copy of all letters, petitions, telegrams and correspondence between the Hon. L. P. Pelletier, ex-Postmaster General and any person or persons of the county of Lévis, which during the month of April, 1912, had any connection with the appointment of G. A. Marois to a position in the customs office at Quebec, and the appointment of J. E. Gingras as postmaster of St. Romuald and Etchemin. Presented 30th March, 1915.—*Mr. Bourassa* *Not printed.*
- 210.** Return to an Order of the House of the 22nd February, 1915, for a copy of all letters, telegrams, petitions and documents of all kinds in possession of the Post Office Department, referring in any way to the conduct of the postmaster at Grand Etang since his appointment until the present date. Presented 30th March, 1915.—*Mr. Chisholm (Inverness)* *Not printed.*
- 211.** Return to an Order of the House of the 1st March, 1915, for a copy of all telegrams, letters, papers, documents, evidence and reports, in connection with the dismissal of Charles H. Marshall as postmaster at Nanton, Alberta. Presented 30th March, 1915.—*Mr. Warwick* *Not printed.*
- 212.** Return to an Order of the House of the 1st March, 1915, for a copy of the report of the officer in charge of the lobster hatchery at Port Daniel West, and of the report of the inspection thereof for the season 1914. Presented 31st March, 1915.—*Mr. Marcil* *Not printed.*
- 213.** Return to an Order of the House of the 24th February, 1915, for a copy of all correspondence, petitions, documents, etc., in connection with a petition of Donald Williams and others in respect to the regulation of fish traps in Green Harbour and vicinity. Presented 31st March, 1915.—*Mr. Law* *Not printed.*
- 214.** Return to an Order of the House of the 9th February, 1915, for a copy of all correspondence, petitions, departmental recommendations and other papers and documents in the Department of Marine and Fisheries relating to the definition of a "coasting voyage," as defined in the Canada Shipping Act since the revision of the statutes in 1886. Presented 1st April, 1915.—*Mr. Sinclair* *Not printed.*
- 215.** Return to an Order of the House of the 1st March, 1915, for a copy of all advertisements, tenders, contracts, vouchers, letters, documents, etc., relating to the establishment of the ferry service between the City of Halifax and Dartmouth, N.S., for the employees of the Marine and Fisheries Department at Halifax, N.S. Presented 1st April, 1915.—*Mr. Maclean (Halifax)* *Not printed.*

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216. Return to an Order of the House of the 24th February, 1915, for a copy of all pay-rolls, vouchers in detail, correspondence and all other documents in connection with the following public wharves in Shelburne; breakwater or wharf at East Green Harbour; shed on public wharf at Shelburne, and repairs to Gunning Cove wharf. Presented 1st April, 1915.—*Mr. Law*... ..*Not printed.*
217. Return to an Order of the House of the 22nd February, 1915, for a return showing:—1. What properties have been acquired by the Government in the city of Regina since 21st September, 1911? 2. The descriptions of such properties by metes and bounds? 3. For what purposes such properties were acquired? 4. From whom such properties were purchased? 5. The total price and the price per foot paid for each property. 6. If any such property was acquired by expropriation, what tribunal determined the price to be paid for any property so expropriated. 7. The dates on which any such properties were acquired. Presented 1st April, 1915.—*Mr. Martin (Regina)*... ..*Not printed.*
218. Return to an Order of the House of the 11th February, 1915, for a copy of all papers, letters, telegrams, etc., concerning the purchase of the property known as the Carlslake Hotel, in Montreal, for post office purposes. Presented 1st April, 1915.—*Mr. Lemieux*... ..*Not printed.*
219. Return to an Address to His Royal Highness the Governor General, of the 1st March, 1915, for a copy of all letters, telegrams, reports, recommendations, Orders in Council, pay-rolls, list of expenditures, names of foremen and superintendents, and all other documents whatsoever relating to or in anywise appertaining to the erection and maintaining of breakwaters at Phinney's Cove and Young's Cove, county of Annapolis. Presented 1st April, 1915.—*Mr. Macdonald*... ..*Not printed.*
220. Return to an Order of the House of the 24th February, 1915, for a copy of all correspondence, petitions and documents since the 31st of October, 1912, relating in any way whatever to the proposed public wharf at Lower Wood Harbour. Presented 1st April, 1915.—*Mr. Law*... ..*Not printed.*
221. Return to an Order of the House of the 1st March, 1915, for a copy of all advertisements, tenders, accounts, vouchers, letters, documents and correspondence relating to the construction of an extension to the breakwater at Prospect, Halifax County, N.S. Presented 1st April, 1915.—*Mr. Maclean (Halifax)*... ..*Not printed.*
222. Return to an Order of the House of the 1st March, 1915, for a copy of all telegrams, letters, petitions, reports, recommendations and documents of all kinds in any way referring to the purchase of a site for a public building at Port Hawkesbury, and also referring in any way to the erection of a public building thereon. Presented 1st April, 1915.—*Mr. Chisholm (Inverness)*... ..*Not printed.*
223. Return to an Order of the House of the 8th March, 1915, for a return showing all amounts of money expended upon public works in the counties of Wright, Pontiac and Labelle from October, 1911, to date. Presented 1st April, 1915.—*Mr. Devlin*... ..*Not printed.*
224. Return to an Order of the House of the 17th March, 1915, for a copy of the pay-sheet for the month of October, 1914, in connection with repairs to the breakwater at Shipigan Gully, Gloucester County, N.B. Presented 1st April, 1915.—*Mr. Turgeon*... ..*Not printed.*
225. Return to an Order of the House of the 8th March, 1915, for a return showing:—1. From how many firms or private individuals the Government, or any department of the Government, has ordered bicycles since the 1st of July, 1914? 2. The names of these firms? 3. How many bicycles have been ordered from each firm? 4. How many each firm has delivered up to date? 5. How many each firm has yet to deliver? 6. The price each firm is receiving for these bicycles. Presented 1st April, 1915.—*Mr. Kyle*... ..*Not printed.*
226. Return to an Order of the House of the 22nd February, 1915, for a return showing the names and addresses of all Fenian Raid Veterans in the county of Inverness who have been paid the Fenian Raid Bounty, the names and addresses of those who have not been paid, and the names and addresses of those whose applications have been refused. Presented 1st April, 1915.—*Mr. Chisholm (Inverness)*... ..*Not printed.*
227. Return to an Order of the House of the 8th March, 1915, for a return showing:—1. From how many firms or private individuals the Government, or any department of the Government, has ordered motor cycles since the 1st of July, 1914? 2. The names of these firms? 3. How many motor cycles have been ordered from each firm? 4. How many each firm has delivered up to date? 5. How many each firm has yet to deliver? 6. The price each firm is receiving for these motor cycles? Presented 1st April, 1915.—*Mr. Chisholm (Antigonish)*... ..*Not printed.*

 CONTENTS OF VOLUME 28—*Continued.*

228. Return to an Address to His Royal Highness the Governor General of the 19th February, 1915, for a copy of all Orders in Council, letters and telegrams exchanged between the Dominion Government and the several provinces, concerning the proposed transfer of fisheries in tidal waters from the Provincial to the Federal control. Presented 1st April, 1915.—*Mr. Lemieux* *Not printed.*
229. Return to an Order of the House of the 4th March, 1915, for a copy of all correspondence exchanged between the Government of Canada, or any minister or official thereof, in regard to the control of fisheries in Quebec province, as well as of all documents bearing on that question, together with a list of licenses granted by either Governments for the present year. Presented 1st April, 1915.—*Mr. Marcil* *Not printed.*
230. Return to an Order of the House of the 24th February, 1915, for a copy of all correspondence, letters, telegrams and petitions relating to the appointment of Alfred Bishop as farm foreman, or in any other capacity at the experimental station at Kentville, Nova Scotia. Presented 1st April, 1915.—*Mr. Kyte* *Not printed.*
231. Return to an Address of the 10th March, 1915, showing copies of all correspondence, telegrams and documents exchanged between the Department of Marine and Fisheries and the Minister of the Naval Service and the Department of Colonization, Mines and Fisheries of the province of Quebec, relating to the rescinding of the prohibition of net fishing in the waters of the Lakes of Two Mountains, St. Francis and St. Louis, as per Order in Council (197) passed in Ottawa, Thursday, 28th day of January, 1915.—*Senate*) *Not printed.*
232. Return to an Order of the House of the 1st March, 1915, for a copy of all papers, letters, petitions and other documents relating to the establishment of a rural mail route from River John to Hedgeville, county of Pictou. Presented 3rd April, 1915.—*Mr. Macdonald*.
Not printed.
233. A communication from the Consul General of Belgium in Canada, respecting the protest of the Belgium Government against the contention of the German Chancery that as far back as in 1906, Belgium had broken her own neutrality by the conclusion of an agreement with Great Britain. Presented by Sir Robert Borden, 5th April, 1915.
Printed for sessional papers.
234. Return to an Address of the Senate dated 11th March, 1915, showing:—1. How much wheat, oats and barley has the Dominion Government purchased in 1914 for seed to be distributed in the West, giving the amount of each kind? 2. Where is said grain stored, and what rate of storage is the Government paying on same? 3. How much did the Government pay per bushel for oats, barley and wheat, purchased for said provinces, and when was said grain purchased? 4. Have they given a contract for cleaning said grain, and to whom, and at what price?—*(Senate)* *Not printed.*
235. Return to an Order of the Senate dated the 18th March, 1915, that an Order of the Senate do issue for:—1. A return showing the results per grade of all grain in each of the terminal elevators at Fort William and Port Arthur at the annual weigh-up for each of the years 1912, 1913 and 1914. 2. A return showing the balances whether overages or shortages in each grade in each elevator for each of the said years. 3. A return showing the net result of the three years operations of each of said elevators in overages or shortages in each grade.—*(Senate)* *Not printed.*
236. Return to an Order of the House of the 8th March, 1915, for a return showing:—1. The quantity of spirituous liquors, proof gallons, including ale, wines and beers, taken out of bond between 6th August and 21st August, 1914, at each port of the Dominion. 2. The quantity of cigars, cigarettes and tobacco taken out of bond between the above mentioned dates at each port of the Dominion. Presented 7th April, 1915.—*Mr. Hughes (Kings, P.E.I.)* *Not printed.*
237. Return to an Order of the House of the 8th March, 1915, for a return showing:—1. From how many firms or private individuals the Government, or any department of the Government, has ordered forage caps since the 1st of July, 1914? 2. The names of these firms? 3. How many forage caps have been ordered from each firm? 4. How many each firm has delivered to date? 5. How many each firm has yet to deliver? 6. The price each firm is receiving for these forage caps? Presented 7th April, 1915.—*Mr. Murphy* *Not printed.*
238. Return to an Order of the House of the 11th March, 1915, for a copy of the report of Dr. Wm. Wakeham, on the extent of the losses sustained in the Baie des Chaleurs and Gulf of St. Lawrence in the storm of 5th June, 1914, together with a statement showing the number of claims received and those entertained, with names of claimants and their residence, and the amounts paid to each, together with a copy of other documents bearing on this question. Presented 7th April, 1915.—*Mr. Marcil* *Not printed.*

 CONTENTS OF VOLUME 28—*Continued.*

239. Return to an Address to His Royal Highness the Governor General, of the 23rd February, 1915, for a copy of all letters, telegrams, reports, recommendations, Orders in Council and all other documents and papers in connection with rewards to the officers and crews of steamers *John L. Cann* and *Westport III*, for their heroic efforts in saving the passengers and crews of ss. *Cobequid*, wrecked on Trinity Lodge, 13th January, 1914. Presented 7th April, 1915.—*Mr. Law* *Not printed.*
240. Return to an Order of the House of the 29th March, 1915, for a copy of all documents, letters, telegrams, reports, etc., relating to the dismissal of Alexandre Blais, of the city of Lévis, from the position of customs officer at Bradore Bay, and the appointment of his successor or successors. Presented 7th April, 1915.—*Mr. Bourassa* . . . *Not printed.*
241. A Return to an Address of the Senate dated 18th March, 1915, for:—1. A return showing all appointments to the Civil Service, Department of the Interior, in that area contained in the present constituencies of Medicine Hat and Macleod, giving names, date of appointment, how appointed, and salaries from the year 1896 to the present date. 2. Also, all vacancies by death, resignation or dismissal, giving name, date, length of service and cause of dismissal in the same area and during the same period.—(*Senate*). *Not printed.*
242. Return to an Order of the House of the 1st March, 1915, for a copy of charges made against J. Herbert Sweetman, customs officer at Port Daniel Centre, Quebec, which brought about his dismissal; and also of charges against Velson Horie, lighthouse keeper at Port Daniel West, Quebec, which brought about his dismissal. Presented 8th April, 1915.—*Mr. Marcil (Bonaventure)* *Not printed.*
243. Return to an Order of the House of the 22nd February, 1915, for a copy of all correspondence, recommendations, petitions, contracts, tenders and other papers and documents in any way connected with the letting of the contract for carrying the mails between Guysborough and Erinville, N.S. Presented 8th April, 1915.—*Mr. Sinclair*. *Not printed.*
244. Return to an Order of the House of the 10th March, 1915, for a copy of all reports, petitions, letters, telegrams and other documents in connection with the dismissal of W. M. Thomson from the postmastership at Fort Qu'Appelle, and of any petition or petitions for his reinstatement, and of all correspondence in connection therewith. Presented 8th April, 1915.—*Mr. Thomson (Qu'Appelle)* *Not printed.*
245. Return to an Order of the House of the 22nd March, 1915, for a copy of all letters, telegrams, correspondence and petitions received in the Post Office Department, in any way referring to the calling of tenders for the Antigonish-Sherbrooke mail service, which tenders were opened or due at the Post Office Department on the 11th December last; and of all representations or requests, recommending or suggesting that new tenders should be invited as was done early in February last. Presented 8th April, 1915.—*Mr. Chisholm (Inverness)* *Not printed.*
246. Return to an Order of the House of the 3rd March, 1915, for a copy of all letters, telegrams, papers and other documents in regard to a proposed rural mail delivery service between Pictou and Saltsprings, Pictou county, and as to the arrangements for the existing service between those points. Presented 8th April, 1915.—*Mr. Macdonald*. *Not printed.*
247. Return to an Address of His Royal Highness the Governor General, of the 1st March, 1915, for a copy of all letters, telegrams, reports, recommendations, Orders in Council, and all other documents and papers whatsoever relating to or in any wise connected with the establishment of rural mail routes and deliveries from Bridgetown to Granville Ferry, county of Annapolis, and especially of all letters, telegrams, reports, recommendations and documents relating to the closing of the post offices at Belleisle, Upper Granville, and the establishment of the post office at Granville Centre, all in the county of Annapolis. Presented 8th April, 1915.—*Mr. Macdonald* *Not printed.*
248. Return to an Order of the House of the 22nd February, 1915, for a copy of all telegrams, letters, reports, petitions and all other documents in any way referring to the proposed line of railway from Orangedale to Cheticamp. Presented 9th April, 1915.—*Mr. Chisholm (Inverness)* *Not printed.*
249. Return to an Order of the House of the 11th March, 1915, for a copy of all documents, investigations, reports, correspondence, etc., relating to the burning of certain buildings belonging to the Trois Pistoles Pulp and Lumber Company and to André Leblond, near Tobin station, on the Intercolonial Railway. Presented 9th April, 1915.—*Mr. Lapointe (Kamouraska)* *Not printed.*
250. Return to an Order of the House of the 18th March, 1915, for a return showing the names of all officials, assistants and clerks, employed in the railway offices at Moncton, N.B., and the salary paid to each; also the names of officials formerly employed in said offices who have been retired on superannuation allowance, and the amount of retiring allowance being paid to each. Presented 9th April, 1915.—*Mr. Copp* . . . *Not printed.*

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251. Return to an Order of the House of the 24th March, 1915, for a return showing the names of all persons from whom lands have been purchased, the quantity of land so acquired, and the amount paid therefor, in connection with the Dartmouth and Dean's Post Office Branch of the Intercolonial Railway since the date of return numbered 128 made to Parliament at the last regular session thereof. Presented 9th April, 1915.—*Mr. Maclean (Halifax)*... ..*Not printed.*
252. Return to an Address to His Royal Highness the Governor General of the 17th March, 1915, for a copy of all correspondence, letters, Orders in Council, agreements, etc., in reference to the leasing or transfer of the Windsor Branch of the Intercolonial Railway to the Canadian Pacific Railway. Presented 9th April, 1915.—*Mr. Maclean (Halifax)*... ..*Not printed.*
253. Return to an Order of the House of the 22nd February, 1915, for a copy of all petitions, correspondence, reports of engineers or other persons in the possession of the Department of Railways and Canals relating to the construction of a railway in the county of Guysborough, N.S. Presented 9th April, 1915.—*Mr. Sinclair*... ..*Not printed.*
254. Return to an Order of the House of the 10th March, 1915, for a copy of all letters and correspondence, between D. McDonald, superintendent of the Intercolonial, at Lévis, P. Brady, general superintendent at Moncton, or any other official of the said Intercolonial Railway and Théophile Bélanger, commercial traveller of the city of Montreal, concerning certain claims made by the said Théophile Bélanger for delay of baggage in transportation between Drummondville and Matapédia, in May, 1913, also all reports made bearing upon such claims against the said Intercolonial Railway. Presented 9th April, 1915.—*Mr. Ethier*... ..*Not printed.*
255. Return to an Order of the House of the 15th February, 1915, for a copy of all letters, telegrams, minutes of investigation and other documents relating to the dismissal of Isaac Arbuckle, foreman carpenter Intercolonial Railway at Pictou, and of appointment of Alex. Talbot to the vacancy. Presented 9th April, 1915.—*Mr. Macdonald*... ..*Not printed.*
256. Return to an Order of the House of the 15th February, 1915, for a copy of all correspondence letters, telegrams, by any and all persons whomsoever, had with the Department of Railways and Canals, or F. P. Gutelius, general manager of the Intercolonial Railway, or any other official thereof, with reference to freight rates over that portion of the Transcontinental Railway, province of New Brunswick, and also with reference to the removal of the Y connection at Wapski, county of Victoria, between the said Transcontinental Railway and the Canadian Pacific Railway at that point. Presented 9th April, 1915.—*Mr. Carvell*... ..*Not printed.*
257. Return to an Order of the House of the 15th February, 1915, for a copy of all letters, telegrams, correspondence, contracts, and other documents relating to the operation of the St. John Valley Railway, so called, by the Intercolonial Railway, since the first day of July last past, and of all letters, correspondence, etc., had either with the Department of Railways and Canals, or with F. P. Gutelius, or any other official of the Intercolonial Railway. Presented 9th April, 1915.—*Mr. Carvell*... ..*Not printed.*
258. Return to an Order of the House of the 1st March, 1915, for a copy of all petitions, memorials, letters, telegrams, communications and reports regarding the construction of a roadway to the new public wharf at Sackville, N.B., and also in regard to the building of a spur line or siding from the Intercolonial Railway at Sackville to said wharf. Presented 9th April, 1915.—*Mr. Copp*... ..*Not printed.*
259. Return to an Order of the House of the 15th March, 1915, for a copy of all correspondence passing between any department of the Government and any official of the Government, or any other person, with respect to the placing of settlers on homesteads in the Duck Mountains Timber Reserve, and also of the evidence taken by Inspector Cuttle, of the Department of the Interior, in an investigation held by the said inspector with respect to the granting of entries for homesteads on the said timber reserve. Presented 9th April, 1915.—*Mr. Martin (Regina)*... ..*Not printed.*
260. Return to an Order of the House of the 8th March, 1915, for a return showing:—1. From how many firms or private individuals the Government, or any department of the Government, has ordered flannel shirts since the 1st of July, 1914? 2. The names of these firms? 3. How many flannel shirts have been ordered from each firm? 4. How many each firm has delivered up to date? 5. How many each firm has yet to deliver? 6. The price each firm is receiving for these flannel shirts? Presented 9th April, 1915.—*Mr. Carroll*... ..*Not printed.*
- 260a. Return to an Order of the House of the 8th March, 1915, for a return showing:—1. From how many firms or private individuals the Government, or any department of the Government, has ordered cotton shirts since the 1st of July, 1914? 2. The names of these firms? 3. How many cotton shirts have been ordered from each firm? 4. How many each firm has delivered up to date? 5. How many each firm has yet to deliver? 6. The price each firm is receiving for these cotton shirts? Presented 9th April, 1915.—*Mr. Chisholm (Antigonish)*... ..*Not printed.*

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- 260b.** Return to an Order of the House of the 8th March, 1915, for a return showing:—1. From how many firms or private individuals the Government or any department of the Government, has ordered service shirts since the 1st of July, 1914? 2. The names of these firms? 3. How many service shirts have been ordered from each firm? 4. How many each firm has delivered up to date? 5. How many each firm has yet to deliver? 6. The price each firm is receiving for these service shirts? Presented 10th April, 1915.—*Mr. Carroll* *Not printed.*
- 260c.** Return to an Order of the House of the 8th March, 1915, for a return showing:—1. From how many firms or private individuals the Government or any department of the Government, has ordered winter shirts since the 1st of July, 1914? 2. The names of these firms? 3. How many winter shirts have been ordered from each firm? 4. How many each firm has delivered up to date? 5. How many each firm has yet to deliver? 6. The price each firm is receiving for these winter shirts? Presented 12th April, 1915. *Mr. McKenzie* *Not printed.*
- 261.** Return to an Order of the House of the 11th March, 1915, for a return showing:—1. What medical supplies or other materials have been purchased since 1st August, 1914, by the Government, or any department of the Government, from Mr. T. A. Brownlee, of Ottawa? 2. The quantities of goods purchased from him and the prices paid? 3. Whether the Government, or any? department of the Government, prepared a schedule of rates to show what constitutes a fair and reasonable price for such goods purchased? 4. If so, if a careful check was made to see that a fair and reasonable price was charged? 5. The total value of the goods delivered up to date? 6. The total value of the goods which have been ordered from Mr. T. A. Brownlee, but which to this date have not been delivered? Presented 9th April, 1915.—*Mr. Kyle* *Not printed.*
- 262.** Return to an Order of the House of the 8th March, 1915, for a return showing:—1. From how many firms or private individuals the Government, or any department of the Government, has ordered kit bags since the 31st of July, 1914? 2. The names of these firms? 3. How many kit bags have been ordered from each firm? 4. How many each firm has delivered up to date? 5. How many each firm has yet to deliver? 6. The price each firm is receiving for these kit bags? Presented 9th April, 1915.—*Mr. Kyte*.
Not printed.
- 263.** Return to an Order of the House of the 11th March, 1915, for a return showing:—1. What medical supplies or other materials have been purchased since 1st August, 1914, by the Government, or any department of the Government, from Mr. S. J. Stevenson, or the Waverley Pharmacy? 2. The quantities of goods purchased from him and the prices paid? 3. Whether the Government, or any department of the Government, prepared a schedule of rates to show what constitutes a fair and reasonable price for such goods purchased? 4. If so, if a careful check was made to see that a fair and reasonable price was charged? 5. The total value of the goods delivered by Mr. Stevenson, or Waverley Pharmacy, up to date? 6. The total value of the goods which have been ordered from Mr. S. J. Stevenson, or Waverley Pharmacy, but which to this date have not been delivered? Presented 9th April, 1915.—*Mr. Chisholm (Antigonish)*.
Not printed.
- 264.** Return to an Order of the House of the 8th March, 1915, for a return showing:—1. From how many firms or private individuals the Government, or any department of the Government, has ordered suits of underwear since the 1st July, 1914? 2. The names of these firms? 3. How many suits of underwear have been ordered from each firm? 4. How many each firm has delivered up to date? 5. How many each firm has yet to deliver? 6. The price each firm is receiving for these suits of underwear? Presented 9th April, 1915.—*Mr. Law* *Not printed.*
- 265.** Return to an Order of the House of the 11th March, 1915, for a return showing:—1. What medical supplies or other materials have been purchased since 1st August, 1914, by the Government, or any department of the Government, from Mr. W. B. McDonald, of Ottawa? 2. The quantities of goods purchased from him and the prices paid? 3. Whether the Government, or any department of the Government, prepared a schedule of rates to show what constitutes a fair and reasonable price for such goods purchased? 4. If so, if a careful check was made to see that a fair and reasonable price was charged? 5. The total value of the goods delivered by Mr. McDonald up to date? 6. The total value of the goods which have been ordered from Mr. McDonald, but which to this date have not been delivered? Presented 9th April, 1915.—*Mr. Carroll*.
Not printed.
- 266.** Report of Thomas R. Ferguson, commissioner appointed to investigate matters pertaining to the Blood Indian Reserve and the acquisition of certain Indian lands by Messrs. James A. Smart, Frank Pedley and William J. White, together with the evidence taken in the said investigation. Presented by Hon. Mr. Coderre, 10th April, 1915.
Not printed.

CONTENTS OF VOLUME 28—*Continued.*

267. Return to an Order of the House of the 17th March, 1915, for a copy of all petitions, letters, documents, etc., between persons in the province of Nova Scotia and the Department of Trade and Commerce since 1st August last, with regard to Atlantic ocean freight rates on subsidized steamers or otherwise. Presented 10th April, 1915.—*Mr. Maclean (Halifax)* *Not printed.*
268. Return to an Order of the House of the 22nd February, 1915, for a copy of the report of investigation held about 1st June, 1914, by T. R. Ferguson, as special commissioner, into the allotment of homesteads on the area cut out of the Riding Mountain Forest Reserve in the year 1908 or about that time. Presented 10th April, 1915.—*Mr. Cruise*.
Not printed.
269. Copy of Order in Council dated 6th April, 1915.—Regulations in respect to steam trawlers clearing from ports on the Atlantic seaboard of Canada. Presented by Hon. Mr. Hazen, 10th April, 1915. *Not printed.*
270. Return to an Order of the House of the 15th February, 1915, for a copy of all tenders in connection with the supply of lumber to the Department of Militia for the training camps at Medicine Hat and Calgary, and of the invoices for the material supplied. Presented 12th April, 1915.—*Mr. Buchanan*. *Not printed.*
271. Return to an Order of the House of the 17th March, 1915, for a copy of all correspondence and reports relating to the purchase of 25,000 shovels of special pattern, mentioned in Order in Council P.C. 2302, dated 4th September, 1914, on page 38 of memoranda respecting work of the Department of Militia and Defence, and also relating to any further purchases of such shovels. Presented 12th April, 1915.—*Mr. Hughes (Kings, P.E.I.)*. *Not printed.*
272. Return to an Order of the House of the 15th March, 1915, for a return showing the names of the persons who bought the horses which were sold by auction at Valcartier camp, giving the price paid for each horse. Presented 12th April, 1915.—*Mr. Kay*.
Not printed.
273. Return to an Order of the House of the 24th February, 1915, for a return showing:—1. If the Government ever leased any land at or near Shelburne, Nova Scotia, known as the Barracks property, to the town of Shelburne? 2. If, so, at what rental, and for how long? 3. If said lease is now in force? 4. If the Government has sold any of the standing timber on this property? 5. If so, when, to whom, and at what price? 6. How long the purchaser has to remove it? 7. What is the minimum size at the stump sold? 8. If the Government has ever had the property cruised by competent timber cruiser? 9. If so, by whom, and when? 10. If the timber on said property was advertised for sale, and if tenders were asked for, or any opportunity afforded to other prospective buyers to bid for this timber? 11. If any other offers were received? 12. If the town of Shelburne was notified before the sale took place. If so, on what date? 13. How much timber the Government estimates to be on this property? 14. What steps the Government intends to take to compute the quantity of timber cut from this property? 15. If the Government is aware that timber is now being cut from this property by a person or firm who are cutting timber from private property adjoining said Barracks property? 16. What steps are being taken by the Government to be sure that in this case the logs are kept separate from those coming from the adjoining lot, for the purpose of having accurate count and scale? 17. If the Government will bring down a copy of all correspondence, cruisers reports and contracts in relation to the sale of this timber? Presented 12th April, 1915.—*Mr. Law*. *Not printed.*
274. Return to an Address to His Royal Highness the Governor General, of the 11th February, 1915, for a copy of all correspondence, telegrams, Orders in Council, petitions and any other documents in connection with the removal of Edward N. Higinbotham from the position of postmaster at Lethbridge, Alberta. Presented 13th April, 1915.—*Mr. Buchanan*. *Not printed.*
275. Return to an Order of the House of the 10th March, 1915, for a copy of all petitions, correspondence and other documents in connection with the dismissal of Emile Cyr, postmaster at St. Hermas, county of Two Mountains. Presented 13th April, 1915.—*Mr. Ethier*. *Not printed.*
276. Return to an Order of the House of the 7th April, 1915, for a return showing:—1. Who the mail carriers are for the rural mail in the counties of Chicoutimi and Saguenay? 2. The salary of each such mail carrier, and the trip that each has to make? 3. Who the mail carriers are for the rural mails in the parishes of St. Prime and St. Louis de Metabetchouan, and their respective salaries? Presented 13th April, 1915.—*Mr. Lapointe (Kamouraska)*. *Not printed.*
277. Return to an Order of the House of the 29th March, 1915, for a copy of all documents, letters, telegrams, testimonials, reports, etc., relating to the claim of Télecphore Paradis, of the city of Lévis, arising from the burning of his wharf and mills which were set on fire by a locomotive of the Intercolonial Railway. Presented 13th April, 1915.—*Mr. Bourassa*. *Not printed.*

 CONTENTS OF VOLUME 28—*Continued.*

278. Return to an Order of the House of the 8th April, 1915, for a return showing:—1. The number of employees connected with the administration of the Three Rivers post office on the 21st September, 1911, and the annual amount paid in salaries at that date for such service. 2. The number of employees connected with the administration of the Three Rivers post office at the present date, and the amount of the annual salaries paid for such service. 3. The number of employees in the Customs Department for Three Rivers on the 21st September, 1911, and the amount of the annual salaries paid for such service. 4. The number of employees in the Customs Department for Three Rivers at the present date, and the annual amount of the salaries paid for such service. 5. The number of employees in the Inland Revenue Department for the district of Three Rivers on the 21st September, 1911, and the annual amount of salaries paid for such service. 6. The number of employees at the present date in the Inland Revenue Department for the district of Three Rivers, and the amount of the annual salaries paid for such service. 7. The number of employees, and the amount paid in salaries for the works on the St. Maurice, in the county of Champlain, during the year 1911-12. 8. The number of employees, and the amount of salaries paid per year for the works on the St. Maurice, in the county of Champlain, since 1911-12. 9. If the employees whose names follow, were dismissed on the 26th and 27th November, 1914, and the 4th and 5th January, 1915; Wildé Lavalée, Pierre Thiclerge, Joseph Paquin, sr., Joseph Paquin, jr., Athanase Gélinas, clerks. 10. If so, at whose request, and for what reasons. 11. If those days were taken off the salaries of such employees. Presented 13th April, 1915.—*Mr. Bureau* *Not printed.*
279. Return to an Order of the House of the 4th March, 1915, for a copy of all documents bearing on the removal of the salmon retaining pond from Flat Lands to New Mills, N.B., and of all reports on the operations thereof, with a detailed statement of outlay and cost of removal, installation and operation. Presented 13th April, 1915.—*Mr. Marcell* *Not printed.*
280. Return to an Address to His Royal Highness the Governor General of the 3rd February, 1913, for a copy of all Orders in Council, letters, telegrams, reports, petitions and other papers and documents in the possession of the Department of Marine and Fisheries, or any department of the Government, relating to the granting of licenses to pack lobsters, and bearing date between 1st January, 1912, and 25th January, 1913. Presented 13th April, 1915.—*Mr. Sinclair* *Not printed.*
281. Report of Thomas R. Ferguson, K.C., commissioner appointed to investigate into all matters relating to, or connected with, the application for (although such application may not have been granted, or may still be pending) the sale, lease, grant, exchange, or other disposition by any means whatsoever, since the first day of July, 1896, of:— (a) Dominion Lands; (b) Timber and mineral lands and mining rights and privileges, including coal, petroleum, and gas lands and rights and irrigation tracts or lands, and the cutting of timber upon Government lands; (c) Water-power and rights; (d) Indian Lands and Indian Reserves: under authority or purporting to be under the authority of the Dominion Lands Acts, and Irrigation Act, or other statutes of the Parliament of Canada, and the acts or proceedings of any person or corporation in relation to the matters foresaid. Presented by Hon. Mr. Coderre, 13th April, 1915. *Not printed.*
282. Report and evidence upon the matter known as: "Timber Berths 550½ and 528, Howard Douglas, R. E. A. Leech, D. J. McDonald, and others." Presented by Hon. Mr. Coderre, 13th April, 1915. *Not printed.*
283. Report and evidence upon the matter known as: "The Kananaskis Coal Company, Limited, Howard Douglas, George E. Hunter, Walter Garrett, and others." Presented by Hon. Mr. Coderre, 13th April, 1915. *Not printed.*
284. Report and evidence upon the matter known as: "Blood Indian Reserve and Frank Pedley." Presented by Hon. Mr. Coderre, 13th April, 1915. *Not printed.*
285. Report and evidence upon the matter known as: "Southern Alberta Land Company, Limited, and Grand Forks Cattle Company, J. D. McGregor, Arthur Hitchcock, and others." Presented by Hon. Mr. Coderre, 13th April, 1915. *Not printed.*
286. Report and evidence upon the matter known as: "The Bulletin Company, Limited, the Honourable Frank Oliver, and the Grand Trunk Pacific Railway Company." Presented by Hon. Mr. Coderre, 13th April, 1915. *Not printed.*
287. Report and evidence upon the matter known as: "Aylwin Irrigation Tract, E. A. Robert and J. D. McGregor." Presented by Hon. Mr. Coderre, 13th April, 1915. *Not printed.*
288. Report and evidence upon the matter known as: "Timber Berths 1107 and 1108, W. H. Nolan, A. W. Fraser, and J. G. Turiff." Presented by Hon. Mr. Coderre, 13th April, 1915. *Not printed.*

 CONTENTS OF VOLUME 28—*Continued.*

289. Report and evidence upon the matter known as: "Grazing Ranch No. 2422, J. G. Turriff, A. J. Adamson, and J. D. McGregor." Presented by Hon. Mr. Coderre, 13th April, 1915. *Not printed.*
290. Report and evidence upon the matter known as: "Craven Dam, Walter Scott, Lieutenant-Governor Brown, and J. G. Turriff." Presented by Hon. Mr. Coderre, 13th April, 1915. *Not printed.*
291. Certified copies of Reports of the Committee of the Privy Council No. P.C. 1109 and No. P.C. 1589, approved by His Excellency the Administrator on the 10th May, 1913, and 27th June, 1913, respectively, in respect to the appointment of Thomas R. Ferguson, K.C., as commissioner to investigate and report upon all matters connected with the disposition by any means whatsoever, since the first day of July, 1896, of:—(a) Dominion Lands; (b) Timber and mineral lands and mining rights and privileges, including coal, petroleum, and gas lands and rights and irrigation tracts or lands, and the cutting of timber upon Government lands; (c) Water-power and rights. (d) Indian Lands and Indian Reserves. Presented by Sir Robert Borden, 13th April, 1915. *Not printed.*
292. Return to an Order of the House of the 11th March, 1915, for a copy of all charges, correspondence, letters, telegrams and other documents relative to the dismissal of Joseph Day, at Little Bras D'Or, in the riding of North Cape Breton and Victoria, and of the evidence taken and reports of the investigation held by H. B. Duchemin, in regard to same, with a detailed statement of expenses of such investigation. Presented 14th April, 1915.—*Mr. McKenzie*. *Not printed.*
293. A Return to an Order of the Senate, dated 30th March, 1915, for a return giving the names of the trust companies up to the present date who have complied with the requirements of Clause 69 of the Trust Companies Act, 1914, and any correspondence connected therewith.—(*Senate*) *Not printed.*
294. Report of R. A. Pringle, K.C., commissioner appointed to investigate into charges of corruption and fraud in relation to contracts for the building of certain drill halls in the province of Ontario, together with the evidence taken at the said inquiry. Presented by Sir Robert Borden, 14th April, 1915. *Not printed.*
295. Return to an Order of the House of the 1st March, 1915:—1. For a full statement and description of all lands taken possession of by the Government for the camp at Valcartier. 2. For copies of all titles of the Government to the same, whether by expropriation, purchase or otherwise. 3. For a specified statement of all amounts claimed and still unpaid whether for land or damages. 4. For a specified account of all amounts paid up to date either for land or damages. Presented 15th April, 1915.—*Sir Wilfrid Laurier*. *Not printed.*
296. A return to an Address to His Royal Highness the Governor General:—1. A return showing all appointments to the customs in that area contained in the present constituencies of Medicine Hat and Macleod, giving names, date of appointment, how appointed and salaries, from the year 1896 to the present date. 2. Also, all vacancies by death, resignation or dismissal, giving name, date, length of service and cause of dismissal in the same area and during the same period.—(*Senate*) *Not printed.*
297. Return to an Address to His Royal Highness the Governor General; praying that His Royal Highness will cause to be laid before the Senate copies of all letters between the Minister of Marine and Fisheries or his department and the fishery overseer at Baker Lake, in the province of New Brunswick; and also copies of all claims made by the said fishery overseer and the payments made thereon.—(*Senate*) *Not printed.*

FORTY-SEVENTH ANNUAL REPORT

OF THE

DEPARTMENT OF MARINE AND FISHERIES

For the Fiscal Year

1913-14

MARINE

PRINTED BY ORDER OF PARLIAMENT



OTTAWA

PRINTED BY J. DE L. TACHÉ, PRINTER TO THE KING'S MOST
EXCELLENT MAJESTY

1915

*To His Royal Highness, Field Marshal Prince Arthur William Patrick Albert,
Duke of Connaught and Strathearn, K.G., K.T., K.P., etc., etc., etc., Governor
General and Commander-in-Chief of the Dominion of Canada.*

MAY IT PLEASE YOUR ROYAL HIGHNESS:

I have the honour to submit herewith, for the information of Your Royal Highness and the Parliament of Canada, the Forty-Seventh Annual Report of the Department of Marine and Fisheries, Marine Branch.

I have the honour to be,

Your Royal Highness's most obedient servant,

J. D. HAZEN,

Minister of Marine and Fisheries.

DEPARTMENT OF MARINE AND FISHERIES,

OTTAWA, November, 1914.

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REPORT

OF THE

DEPUTY MINISTER OF MARINE AND FISHERIES

To the Honourable J. D. HAZEN,
Minister of Marine and Fisheries.

SIR,—I have the honour to report on the transactions and service of the Marine Branch of the Department of Marine and Fisheries for the fiscal year ending March 31, 1914.

This report contains the annual reports in detail of the officials in charge of separate branches of the Marine Branch and of the outside service under control of harbour commissioners, port wardens and pilotage authorities. The reports of the harbour commissioners, port wardens, and pilotage authorities are for the calendar year 1913, according to the Acts providing for annual reports upon action in each branch.

The season, generally speaking, was favourable for the construction of light-houses, fog-alarms, and depots. The work in the St. Lawrence ship channel was carried on with success. Nothing of an unusual character interfered with the maintenance of aids to navigation, excepting in some minor instances. Progress was made in the special work of more powerful lighting apparatus at some of the light stations.

Navigation in the St. Lawrence river was possible to a later period in the fall than usual. The ice, however, became very thick during the month of February, and formed heavy jams or "bridges" at several points. The *Montcalm* and *Lady Grey* were employed in attempting to cut channels at these narrow places, and would have succeeded as in former winters, but accidents occurred to both steamers which prevented their continuance in the work until repairs had been made. Navigation was somewhat later in consequence in opening in the spring.

At the head of lake navigation in the harbours of Port Arthur and Fort William, icebreaking was performed under contract, as in former years, enabling grain vessels to enter and move to the elevators and to depart in the spring without interference from ice. A change was made by the appointment of a sub-agent for the Thunder Bay district, with headquarters at Port Arthur.

In the Maritime Provinces, the harbours that generally close during winter were open later in the fall than usual, but navigation opened somewhat later in the spring of 1914 than the average time. This delayed the work of placing buoys in a number of harbours and in some outside channels. Navigation, as customary, was carried on all winter in harbours open all the year round.

In British Columbia, the general service in maintaining aids to navigation was satisfactorily performed; the establishment of the Marine depot at Prince Rupert aided greatly in carrying out the work.

5 GEORGE V., A. 1915

The winter communication between Prince Edward Island and Pictou was kept up by the steamers *Earl Grey* and *Minto*, with the exception of short periods. The small iceboats from the stations at cape Tormentine, N.B., and cape Traverse, P.E.I., performed satisfactory service when the steamers were prevented from making regular trips.

During the year, several harbours were proclaimed, and harbour masters appointed. In 1912, lines were drawn in certain harbours beyond which wharves must not be built, and similar headlines were defined in certain harbours in 1913.

Amendments were made to regulations governing steamboat inspection, masters and mates, and harbour masters.

Leases of water lots in certain public harbours were granted for the purpose of building wharves; authority was also given to the Montreal Harbour Commissioners to build additional wharves.

The pilotage systems of Montreal and Quebec were investigated.

The large part of the work under the immediate supervision of the permanent agents and sub-agents was, as usual, carried out under that system by authority from Ottawa.

The total expenditure of the Marine Branch for the fiscal year amounted to \$5,560,030.21, but to this was added, as customary, the expenditure for Civil Service salaries of the Marine and Fisheries branches and contingencies, total \$5,828,027.37. The statement of the accountant, which forms one of the appendices of this report, contains the amounts of the appropriation of Parliament, the amounts expended for each division of the departmental service, and the unexpended balances. The total expenditure for Marine and Fisheries together amounted to \$6,898,885.31, not including the fishing bounty of \$158,661.25, which is not a parliamentary appropriation. The net revenue of the Marine and Fisheries branches amounted to \$356,965.80.

The subdivisions and branches of service under which the whole work of the Marine Branch was carried out are as follows:—

The construction of lighthouses and fog-alarms by the Engineer's Branch.

The maintenance of lights, gas buoys and other buoys by the Commissioner of Lights' Branch.

The Lighthouse Board, which decides the necessity for aids to navigation.

The ship channel, St. Lawrence river, and Sorel works.

Meteorological and magnetic service.

Investigations into wrecks.

Wrecks and casualties.

Board of steamboat inspection.

Cattle shipments inspection.

Marine hospitals.

Submarine signals.

Shipping under the Merchants' Shipping Act.

Legislation and administration of laws relating to the Department of Marine and Fisheries.

Humane service in connection with seamen and life saving stations.

Wrecking plant subsidized.

Winter communication.

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Removal of obstructions to navigation.

Examination of masters and mates, and issuing certificates.

Pilotage.

Government of ports and proclaiming of harbours in the Dominion.

Control of harbours and Government wharves.

Dominion steamers, Marine Branch.

Port Wardens.

Wreck Receivers.

Harbour Commissioners.

LIGHTHOUSE CONSTRUCTION, IMPROVEMENTS AND REPAIRS.

The construction of lighthouses, fog-alarm buildings, towers, boat-houses, life-saving stations, protection work, and repairs to lighthouses in general, engaged the attention of the Engineer's Branch of the Department.

New lights and aids to navigation established, changes and improvements and repairs at existing stations and lighthouse and buoy depots are detailed in the report of the Chief Engineer, appendix No. 1 to this report. Extensive improvements were made at a number of stations, and minor improvements and repairs at others.

In Nova Scotia, the principal new establishments were two new stations with buildings, one pole light, one diaphone fog-alarm building, dwelling and outbuildings. Extensive improvements, including an illuminating apparatus, new buildings and fog-alarms, were made at twenty-five existing stations, and a new lightship placed near Halifax. In New Brunswick, five new stations were established, building erected, one pole light and a concrete wharf built at new depot in St. John. Extensive improvements in lighting apparatus, erection of new buildings, installation of electric lights and plants, erections of skeleton steel towers, sheds, and a diaphone fog-alarm and buildings, were made at nine existing stations, and Lurher Shoal lightship repaired. Minor repairs were made at several stations. In Prince Edward Island, the new aids are two wooden lighthouse towers, one dwelling; the improvements consisted of rebuilding two lighthouse towers and minor repairs at several stations.

In the Quebec district, the new aids are four steel skeleton towers, three concrete towers, one fog-alarm building, and installation of two diaphones, two dwellings, one outbuilding, one shed, and one boat-house. The changes and improvements consisted of more powerful apparatus at eleven stations, construction of three dwellings, one pole light, one concrete wharf, two fog-alarm buildings, one diaphone, and five sheds, at existing stations. The cruiser *Arctic* was equipped with lighting apparatus and placed as a light ship in the Lower Traverse, St. Lawrence river. Minor repairs were also made at a number of stations.

In the Montreal district, the new aids established are five steel skeleton towers, two wooden towers, one pole light, and one float light. The changes and improvements consisted of one electric light plant, twenty-one pole lights improved, improvements of illuminating apparatus at seven stations, and one skeleton steel tower erected, at existing stations. Minor repairs were also carried out at a number of lighthouses.

In Ontario and Northwest provinces, the new aids are three steel skeleton towers, one concrete tower, two wooden towers, two dwellings, one boat-house, seven pole

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lights, one diaphone fog-alarm, and one shed. Changes and improvements of the illuminating apparatus were made at sixteen old stations; three sheds, three boat-houses, two wooden towers, and one pole light and two dwellings were added. Three electric lights and one diaphone were installed. Extensive enlargement of the Prescott lighthouse depot was completed by removal of old buildings and overhauling of the main building and machinery, and other improvements. Minor repairs were made at Parry Sound depot, and at a large number of lightstations.

In the province of British Columbia, the work consisted of improvements and changes at existing stations; one combined lighthouse and dwelling, one combined lighthouse and fog-alarm building, two concrete towers, one steel skeleton tower, two wooden towers, three dwellings, and one fog-alarm building and three boat-houses and two sheds were built; four acetylene beacons and one electric light beacon and one beacon with oil lantern were erected. One diaphone fog-alarm, one submarine bell were added at existing stations, and illuminating apparatus improved at five stations. Minor repairs were made at a number of stations. Improvements were made at Prince Rupert lighthouse and buoy depot, and preliminary steps taken to establish a buoy and lighthouse depot at Victoria. Minor repairs were made at a number of stations.

The selection and purchase of twenty-four sites for new lightstations throughout the Dominion were completed during the year.

The work done for the Meteorological Service was the erection of storm signal masts at Sydney and North Sydney, Cape Breton, and for the Life-saving Service, a combined boat-house and dwelling built at Ueluelet, B.C., and a lookout steel skeleton tower at Toronto.

Notices to mariners were issued apprising them of new aids to navigation established, changes in lights and buoys, and of obstructions to navigation. The notices were sent to various ports where masters could obtain them at the custom-houses. In addition, information was published in these notices respecting changes in aids to navigation in waters contiguous to Canadian coast waters. The details and cost of all outside work performed in the Engineer's Branch will be found in the report of the Chief Engineer, Appendix No. 1 to this report.

REMOVAL OF OBSTRUCTIONS TO NAVIGATION.

Removal of obstructions to navigation was performed under directions of the Engineer's Branch. The wrecks *Douglas* and *Monguagon*, sunk in the Detroit river, near Windsor, were removed by contract. Lights were placed on the steamer *City of London*, wrecked in lake Erie, near Amherstburg. The tug *Maxwell*, left in a sinking condition in Port Stanley, was prevented from being a menace to navigation. Two sunken dump scows and the hulk of the old wheel-steamer *William*, were removed from the channel at Valleyfield, Que.

LIGHTHOUSE SUPPLY SERVICE.

Lighthouse supplies, consisting of illuminating oil, paints, etc., were delivered by the Dominion steamers in each agency. The superintendents of lights prepared lists of quantities and supervised the delivery of the articles at each lighthouse on the east

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and west coasts and Great Lakes. The Superintendent of Lights for Ontario has his headquarters in Ottawa, and the steamer *Simcoe* was employed in carrying supplies to lights on the Great Lakes.

BUOYS, LIGHTSTATIONS, AND SUBMARINE BELLS.

The annual report of the Commissioner of Lights and Buoys furnishes detailed information respecting the number of the several orders of lights, fog-alarm stations, warning buoys, submarine bells, gas buoys, the names of lightstations and number of lightkeepers. These items, together with buoys and beacons established during the year, and the number of unlighted buoys, bushes and stakes maintained in the districts throughout the Dominion, are given.

By comparison with the aids to navigation in operation during 1912-13, it will be seen that a gain of one first order of lights, three third order, four fifth order, twelve sixth order lights, was made. Sixty-eight more lights were in use and twenty more light-keepers were employed, nine more diaphones, twenty more gas, one more whistling, eleven more bell buoys, and three more submarine bells were in operation during the past fiscal year.

The annual report of the Commissioner of Lights and Buoys forms Appendix No. 2 to this report.

ST. LAWRENCE RIVER SHIP CHANNEL.

The ship channel of the river St. Lawrence, between Montreal and Father point, has a total length of 340 statute miles.

The contracted part of the river begins at the Traverse, 220 miles below Montreal, and between these two points the dredging has been done, where necessary, for deep-draught vessels, and the deepened channel is termed the "ship channel." Work has also been done in a channel extending from Repentigny to Lavaltrie, some miles below Montreal, for light-draught vessels.

The annual report of the Superintending Engineer contains details of the work done in the channel, termed the "30-foot channel," and in the later project of deepening the ship channel to 35 feet, low water. The deepening work to 35 feet was begun in the North channel below Quebec, and the progress made to the end of the season 1913 has been reported by the Superintending Engineer.

The 30-foot channel, completed from Montreal to the upper end of Cap-à-la-Roche, is $107\frac{1}{2}$ miles, 450 feet in width in straight parts, and 550 to 750 feet in width at the bends. Slow progress was made at Cap-à-la-Roche in deepening and widening the curve, owing to the hard nature of rock dredged. The total length of the dredging work in the 30-foot channel, at various places in the channel, up to the end of 1913, was 66.20 statute miles, being 61.55 miles between Montreal and Quebec, and 4.65 miles below Quebec. A channel 800 feet wide and 30 feet deep, leading to the Montreal floating dock, is nearly completed. Cap Charles channel is also nearly completed and, when finished, will give a width of 450 feet in the straight parts and 600 feet in the curves. Some progress was made in Horseback bar channel in the work of deepening it from $27\frac{1}{2}$ feet to 30 feet at low water, and widening it from 300 to 450 feet.

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The distance dredged to a depth of 35 feet in the channel during the year was 3.90 miles, making the whole distance of that depth, 16.32 miles, and leaving the distance yet to be dredged to 35 feet, 74.06 miles.

The number of cubic yards dredged everywhere in the channel during the year, was 6,140,867, at a cost of \$895,235.59. In the interesting historical sketch in the report of the Superintendent, it is shown that the total dredging from 1851 to the end of 1913 amounted to 91,301,742 cubic yards, and the cost for dredging alone was \$10,505,495; for plant, the cost amounted to \$6,433,651.66, total \$16,939,146.82.

The dredging fleet consists of thirteen dredges, nineteen tugs, thirty-one scows, six barges, two stone lifters, one rock cutter, and one floating shop.

During the season, the usual sweeping of the channel was done, and no obstruction of a serious nature was found.

The Cap-à-la-Roche semaphore at Deschaillons, which indicated the depth of water in the dredged channel at Cap-à-la-Roche, was put in operation on April 26, and the St. Nicholas semaphore, showing the depth of water over the undredged bar at St. Augustin, on May 3.

One serious accident to shipping occurred, caused by the collision of the steamers *Lady of Gaspé* and *Crown of Cordova*, and seven minor accidents.

Icebreaking was performed by the *Lady Grey* and *Montcalm*, but accidents happened to the two steamers: the *Montcalm* lost her rudder and the *Lady Grey* lost a propeller blade. Repairs were made to the latter steamer, which completed the work of icebreaking in the latter part of April.

The marine telegraph signal service begun on the 1st of September, 1907, now consists of thirteen stations between Montreal and Crane island, 32 miles below the city of Quebec. These stations are connected by private telephone system, between Montreal and Quebec, and between that city and Crane island, with the Bell Telephone system. By this means the condition of the weather and the movements of vessels can be ascertained at each station, and reported.

The International Code of Signals is used to communicate with vessels.

The report of the Superintendent of the Ship Channel forms appendix No. 3.

SOREL SHIPYARD.

All vessels of different kinds belonging to the St. Lawrence River ship channel, a number of vessels attached to the lighthouse service of the Marine Branch, and a number of vessels belonging to the Public Works Department were repaired. Some of the repairs were extensive, requiring the steamers, tugs, barges, and scows to be hauled out. Seven steamers received a general overhaul during winter months, thirteen dredges were repaired, fourteen tugs, three sounding barges, fourteen dumping scows, and five coal barges received important and minor repairs, caulking and painting.

Construction of vessels laid down in 1912 continued, and building of other vessels of different kinds was begun. During the year, construction work on the following vessels was carried on, viz., two steamers, two tugs, one stone lifter, three barges, one gasoline launch, fourteen scows, and two catamarans. The two catamarans are to be used in connection with taking levels in the St. Lawrence river.

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Repairs to shipyard buildings, sheds, plant (including outside and workshop machinery and hoisting gear) formed part of the work of the year. New machinery was installed, and extensions made to buildings and wharves. All of the details of repairs, construction and purchase of material will be found in the report of the Superintendent of the Sorel shipyard, forming Appendix No. 4 of this report. A statement of expenditure is attached, amounting to \$1,466,591.40 total expenditure.

DOMINION STEAMERS.

NOVA SCOTIA DISTRICT.

Montmagny.

The *Montmagny* is a screw steel vessel, built in Sorel, Que., in 1909, is 212.6 feet long, 34.4 feet wide, 19.5 feet deep; 723 net, 1,296 gross tonnage.

The *Montmagny* was engaged during the month of April in placing buoys on the eastern and western coasts of Nova Scotia, carrying supplies to various lightstations, and placing Prince Edward Island buoys in position. She sailed to Quebec in May, and returned to Nova Scotia waters in December, where she was engaged in buoy and supply work until the month of April, when she again returned to Quebec.

Stanley.

The *Stanley* is a single-screw steel vessel, built in Govan, G.B., in 1888, specially for winter navigation in the strait of Northumberland. She is 207.8 feet long, 32.0 feet wide, 17.9 feet deep; 394 net, 914 gross tonnage, and 300 nominal horse-power.

She arrived from St. John, N.B., in May, was engaged in buoy work and carrying supplies to lightstations until the first of January. She rendered valuable service in icebreaking on the Cape Breton coast, and made two trips to Magdalen islands with mails and supplies.

Lady Laurier.

The *Lady Laurier* is a twin-screw steel vessel, 214.9 feet long, 34.2 feet wide, 17.2 feet deep; 413 net, 1,051 gross tonnage, and 186 nominal horse-power. She was built in Paisley, Scotland, in 1902, and is employed in the lighthouse and buoy service of this department under the control of Nova Scotia Agency.

The *Lady Laurier* was engaged during the year in carrying supplies to several lightstations, lifting and placing large automatic buoys, and made two trips with mails and supplies to Sable island. She rendered valuable assistance to the wrecked steamer *Cobequid* in January, 1914.

NEW BRUNSWICK DISTRICT.

Aberdeen.

The *Aberdeen* is a single-screw steel vessel, built in Paisley, Scotland, in 1894, and is 180 feet long, 31.1 feet wide, 16.9 feet deep; 266 net, 671 gross tonnage, and 200 nominal horse-power.

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She was employed in the lighthouse and buoy service, mostly under the New Brunswick Agency.

She was at Halifax at the beginning of the fiscal year, undergoing repairs until the 1st of May, 1913. She then placed several buoys in Nova Scotia waters, and on the 4th sailed for St. John, N.B., where she remained until the 10th. This vessel then inspected Old Proprietor buoy, left with Mr. Kelly, Superintendent of Lights, on board to inspect the *Lurcher* lightship. She was then engaged delivering supplies and performing general buoy work during the month of May.

On the 2nd of June, Captain Dalton, Chief Engineer Meredith, and Second Officer Kenny joined the ship, and Captain Blois and crew left for Halifax. The vessel remained at St. John until the 24th of June, when she sailed for Grindstone island to land supplies. She placed Sisters Rock buoy, landed 225 cases of oil at Cape Spencer, returned to Carleton, where she remained until the 4th of July.

On the 8th, the mud scow in tow of the tug *Muscallonge* collided with the *Aberdeen*, injuring her rail, and she returned to St. John, with cement. She continued the buoy service in those waters until the 6th of August, when she was laid up at Carleton for minor repairs until the 16th. The steamer then resumed work on the 14th of October. The *Aberdeen* sailed to rescue a crew, reported in distress off Gannet rock, but learned that a lifeboat had rescued them. The dismasted schooner was towed to Seal cove in a heavy gale. On the 14th of November, the *Aberdeen* sailed from Digby, N.S., to Bay View life-saving station with Commander Thompson, who also visited Little Wood island and Welchpool, and returned to St. John.

From the 18th of December, 1913, until the 22nd of January, 1914, she was laid up at St. John for repairs, and for the balance of the year was on regular service.

Lansdowne.

The *Lansdowne* is a wooden steamer built at Maccan, N.S., in 1884. She is 188.6 feet long, 32.1 feet wide, 15.8 feet deep; 463 net, 680 gross tonnage, and 80 nominal horse-power.

This steamer is engaged in the lighthouse and buoy service under the directions of the New Brunswick Agency.

At the beginning of the fiscal year she was at St. John, N.B., and sailed on the 4th to Westport, N.S., with Commander Thompson, to inspect the life-saving station. The *Lansdowne* continued the regular buoy service, and on the 31st of May went to the relief of the steamer *General Turnbull*. From this date until the 13th of January, 1914, she was constantly employed at her regular work, and on that date sailed to Brier island, to render aid to the *Cobequid*, which was reported to be stranded there. She sailed to Gull rock in very rough weather. Finding no trace of the *Cobequid*, the *Lansdowne* sailed to Westport, Brier island, N.S., for information; and learning that the wreck was on Trinity ledge directed her course thither, arrived at 5.40 p.m., anchored close to the wreck; the sea was too rough to render assistance to the fifteen persons still on board the *Cobequid*. At 7.15 next morning, a boat in charge of First Officer McLean succeeded in taking all on board the *Lansdowne*, which sailed at once for St. John and landed them. She began and continued her regular work until the 29th, when she was laid up at St. John to have her stern repaired that had been

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damaged by the ss. *Manchester Corporation*. On the 9th of February, she resumed work until the 24th, then she sailed for points on the St. Croix river, with representatives of the shipping interests, Mr. Goodspend, District Engineer of the Department of Public Works, Mr. Kelly, Inspector of Lights, and Mr. Swan. She returned to St. John the following day, and continued work until the close of the fiscal year.

PRINCE EDWARD ISLAND DISTRICT.

Earl Grey.

The *Earl Grey* is a steel icebreaking passenger and freight steamer built by Vickers, Sons & Maxim, Barrow-in-Furness, G.B., for winter navigation in the strait of Northumberland to keep up steam communication between Prince Edward Island and the mainland. She is 250 feet long, 47.7 feet wide, and 24.1 feet deep; 2,357 tons gross, 930 net, and her displacement is 3,340 tons. She is fitted with wireless telegraph apparatus and is classed 100 A.1 at Lloyds.

The *Earl Grey* was on the Charlottetown-Pictou route, making regular trips from April 1 to 8. She sailed on the 14th for the Magdalen Islands, having the inspector of fisheries on board, was delayed at Georgetown for some time by fog, and arrived at Grindstone island, M.I., on the 16th; went to Pictou on the 18th.

She returned on the 20th of May; was in the employ of the Charlottetown Steam Navigation Company from that date until the 24th. Sailed to Halifax on the 26th, left for Sydney on the 31st, and on the 3rd of June left for Quebec, where she lay until the 6th of July. Sailed for Charlottetown, arriving there on the 8th, with military men on board. She again sailed to Quebec on the 2nd of July, where she remained until the 24th of July, when she sailed for Charlottetown.

She remained at the Marine wharf from August 3 to December 2, during which time she had repairs made to machinery, doors, lights, ventilators, tanks, funnel, ash ejector, and decks. After fitting for winter service at Charlottetown she was placed on the Charlottetown-Pictou route on the 29th December, and continued on that route until the close of the fiscal year.

The *Earl Grey* was detained by ice while returning from Amet island on the 2nd of February, and again by ice on the 20th and 21st March.

The *Earl Grey* made eighty-seven single trips during the winter season across the strait, carried 342,802 pounds expressage, 10,776,525 pounds freight, 2,057 first-class passengers, 220 of whom paid half-fare; 1,023 second-class passengers, provided 2,226 meals and 1,136 berths.

Earnings—

From expressage	\$ 685 72
“ freight	8,269 38
“ passengers	3,943 50
“ meals	222 60
“ berths	1,136 00
“ four days' hire to Charlottetown S. N. Co.	700 00
“ berths to Magdalen island	5 00
Total	<u>\$14,962 20</u>

Meals are furnished by the steward, who pays the ship 10 cents per meal.

Minto.

The *Minto* is a single-screw steel vessel, built in Dundee, G.B., specially for winter navigation in the Northumberland strait, between Prince Edward Island and the mainland. She is 225 feet long, 32.7 feet wide, 18.3 feet deep; 372 net, 1,090 gross tonnage; 216 nominal and 2,900 indicated horse-power.

The *Minto* was at Summerside on April 1, left for Charlottetown that day, and plied on the Pictou-Charlottetown route until the 9th; lay at Charlottetown from the 6th to the 10th; was in the employ of the Charlottetown Steam Navigation Company on the 17th and 19th April, and was at Charlottetown from the 20th to the 24th, when she left for Pictou. She returned to Charlottetown on the 6th of May, and lay at the Marine wharf for repairs to machinery and hull. This completed, she sailed for Pictou on the 26th November, returning to Charlottetown on the 2nd of December, sailed to Summerside the following day, and began the winter service between that town and Cape Tormentine on the 27th, making round trips daily until the 10th of January, 1914. She sailed for Charlottetown on the 16th January, crossed to Pictou on the 17th, was forced to return to Georgetown on the 20th, and made regular trips on that route until the 12th of February, when she was fast in heavy ice on way to Pictou, was released by *Earl Grey* on the 14th, and reached Pictou on the 15th. She was again stuck in ice on the 21st February, and made regular trips on the Georgetown-Pictou route until the close of the fiscal year.

The *Minto* made eighty-eight single trips across the strait during the winter season, carried 274,334 pounds expressage, 4,701,045 pounds freight; carried 1,858 first-class passengers, 131 of whom paid one-half fare; 554 second-class passengers, five of whom paid one-half fare—making a total of 2,412 passengers; provided 1,709 meals and 527 berths to passengers.

Earnings—		
From	expressage	\$ 549 78
"	freight	3,598 55
"	passengers	2,683 75
"	meals	170 90
"	berths	527 00
"	Charlottetown S. N. Co.	262 50
Total		\$7,792 48

Brant.

The *Brant* is a wooden vessel built in Charlottetown, P.E.I., in 1898. She is 100.4 feet long, 19.1 feet wide, 9.5 feet deep; 58 net, 142 gross tonnage, and 33 horse-power.

This vessel was employed in the lighthouse and buoy service during the year 1913. After fitting out at the Marine wharf, Charlottetown, she sailed on the 14th April, having on board St. Peter's Spit and other buoys, placed them in position, returned the following day and remained at the wharf until the 20th, undergoing cleaning and painting. She continued placing buoys until the 12th May, when she began carrying lighthouse supplies and repair materials; and continued this service until the 11th of November, when she began lifting buoys; and laid up for winter on January 1, 1914.

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QUEBEC DISTRICT.

Rouville.

The *Rouville* is a screw steamer, built in the Government shipyard, Sorel, in 1906; is 125 feet long, 26 feet wide, 14.2 feet deep; 301 gross, 144 net tonnage, and 54 horse-power.

She is employed in the lighthouse construction service under the direction of the Quebec Agency, and wintered in the Louise basin, where she was repaired and fitted for the season's operations. On the 13th of April, she was sent to Lower Traverse to replace the lightship, and continued as lightship until the 20th. On the 9th of May the *Rouville* sailed for Murray Bay to replace the *Champlain* on the ferry service, and remained until the 25th of June, when she resumed carrying construction material, which was continued until the 6th of November, when she again entered on the ferry route between Murray Bay and Rivière Ouelle, and continued until the 1st of December, the close of the season's work.

Montcalm.

The *Montcalm* is a powerful icebreaker, specially designed for the St. Lawrence river service. She was built at Yokers, G.B., in 1904, is a twin-screw steel vessel, 245 feet long, 40.6 feet wide, and 15.7 feet deep; 526 net, 1,432 gross tonnage, 406 nominal and 4,250 indicated horse-power.

At the beginning of the fiscal year she was at Portneuf, and left for Quebec for coal; on the 2nd sailed to Three Rivers to assist the *Lady Grey* in clearing the ice-jams, and worked there until the 13th, when she returned to Quebec to coal and fit up for duty in the gulf in connection with the reporting of ice conditions to incoming vessels. She sailed on the 20th, cruised north of cape Ray to St. Paul island, returned to Father point on the 29th, sailed up the Saguenay on the 30th, and returned to Quebec, reporting the gulf and river clear of ice. The *Montcalm* remained at Kings wharf until 22nd of May, when she went into Levis dry dock for repairs, where she remained until the 12th of June, when she returned to Kings wharf. The ship being thoroughly repaired, cleaned, scraped, painted, and holds put in a good state of repair, she left Kings wharf on the 10th of July, proceeded to Louise basin and began loading supplies, and on the 16th left for the lower St. Lawrence. She worked in the river and gulf until the 12th of August, returned to Quebec, took in supplies and left on the 17th, sailed up the Saguenay river, returned and remained at Kings wharf until the 31st of August, when she sailed for St. Croix to charge and place buoy in position, returned to Quebec, worked around this locality until the 7th of September, sailed from Quebec to Chaleur bay, calling at many points en route, reached Dalhousie, N.B., on the 20th September, returned and landed supplies at Capé Magdalen on the 21st, and reached Quebec on the 22nd. She remained at Quebec until October 4, coaling and taking on lighthouse supplies sailed for Lower Traverse, placed black buoy in position, returned to Quebec, was replaced temporarily by the *Montmagny* on the 11th and, after taking on supplies, sailed for the lower part of the gulf on the 16th October. When returning she received orders at Pointe des Monts, on the 9th of November, to cruise along the north side of Anticosti island in search of ss. *Bridgeport*;

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she returned to Quebec on the 14th of November. The *Montcalm* then left to render aid to a steamer in the Saguenay river, continued work in the St. Lawrence river until the 19th of December, when she moored at Pointe-à-Carcy wharf to undergo repairs, and remained there until the 13th of January, 1914, when she received orders to begin icebreaking. She continued, at intervals, to clear ice in the river until the 2nd of February, when she sailed for Anticosti with passengers, mail, and freight, encountered very heavy ice in which she was several times stopped, and returned to Quebec on the 11th. She continued to relieve ice-jams at the "Bridge" and cap Rouge until the 28th of February, when she sailed to Portneuf to break the ice-jams, worked on the jam until she broke the hand steering gear and rudder-chains on the 6th of March; returned to Quebec for coal and repairs, returned to Portneuf, worked at jam until the 13th, when rudder broke and ship returned to Quebec, moored in Louise basin for repairs, where she remained until the close of the fiscal year.

Champlain.

The *Champlain* is a screw, steel vessel, built in Paisley, Scotland, in 1904; is 120 feet long, 30.3 feet wide, and 17.6 feet deep; 225 net, 522 gross tonnage, and 87 nominal horse-power.

This icebreaker is under the command of Captain René Pelletier, carries a crew of 26 men in winter, is employed the year round in the ferry service between Murray Bay, St. Irénée and Cap-à-l'Aigle on the north shore of the St. Lawrence river, and Rivière Ouelle wharf on the south shore, which is connected by a branch line of railway 6 miles long to the main line of the Intercolonial railway and Rivière Ouelle Junction, where the river is about 11 miles wide.

Beginning on the 23rd of June, she made two round trips daily until the 13th of September, except Sundays, when she made one round trip. At other dates she made only one round trip daily except Sundays, making in all 331 round trips.

She failed to cross on October 15, December 24, was compelled to leave her station on December 28 and came up to Quebec for shelter from storm, snow, and moving ice, the former berth at Murray Bay having been filled up to enlarge the wharf. She returned on the 20th of March and resumed work three days later.

She transported 8,365 passengers, 5,441 sacks of mail, a very large quantity of freight, served 503 meals to passengers and earned \$6,635.58.

The *Champlain* was withdrawn from the service and came up to Quebec for general repairs on May 12, and resumed her former work on June 2. She again came up to Quebec for general overhauling preparatory for winter service on November 6. and returned to her station on December 2, the *Rouville*, on both occasions, taking her place while laid up for repairs.

Eureka.

The *Eureka* is a single-screw, steel vessel built in Glasgow, Scotland, in 1893, is 98.7 feet long, 22.0 feet wide, 11.0 feet deep; 170 gross, 19 net tonnage, and 60 horse-power.

She continued in the pilotage service from Platon to Father point during the season of navigation. She left Quebec for Father point on the 20th of April, and left the station on December 10.

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During this period she sailed 6,165 miles, boarded 751 steamers inward bound, 684 outward, 20 yachts inward, 18 outward, 6 barques inward and 6 outward—a total of 1,435 steamers, 38 yachts and 12 barques—a grand total of 1,485 vessels of all kinds boarded inwards and outwards.

Druid.

The *Druid* is a single-screw steel vessel, built in Paisley, Scotland, in 1902, is 160 feet long, 30.1 feet wide, 12.5 feet deep; 149 net, 503 gross tonnage, and 59 horse-power.

She is employed in the lighthouse and buoy service under the control of the Quebec Agency. She was at Quebec until the 5th of April, 1913, and on the 6th sailed towards Kamouraska lighthouse, Brandy Pots, Red Islet lightship, dragged for anchor without success and, after placing several buoys in position, returned to Quebec on the 12th and continued to perform lighthouse and buoy work until the 4th of October, when she went into Lévis dry dock for repairs, where she remained until October 18, when she resumed her ordinary work until the close of the season of navigation.

BRITISH COLUMBIA DISTRICT.

Estevan.

The *Estevan* is a twin-screw steel vessel, built in Collingwood, Ont., in 1912, and is 212 feet long, 38 feet wide, 15.3 feet deep; 1,161.42 gross, 606.61 net tonnage, has 174 horse-power, and a speed of 12 knots an hour.

At the beginning of the fiscal year, she was at the Wallace shipyard undergoing repairs, left the yard on the 23rd May, proceeded to Seattle, U.S., on the 27th, sailed north to Askew and Triple islands to establish acetylene beacons, charged gas buoys in Queen Charlotte sound and other northern waters, landed supplies and building material. After conveying the Minister of Marine and Fisheries and party from Prince Rupert and back, she returned to Victoria on September 10. From the 17th of September until the 2nd of January, 1914, she was on the west coast delivering supplies, lifting and overhauling buoys, and conveying workmen.

On the 2nd of January, she conveyed the superintendent of lights on an inspection trip to the west coast, delivered a new motor life-boat at Ucluelet and a life-boat at Clayoquot, landed the inspector of lights at several stations, delivered supplies, picked up and recharged buoys and, on the 12th of January, left for Vancouver to undergo annual overhaul.

Quadra.

The *Quadra* is a screw steel vessel, built in Paisley, Scotland, in 1891. She is 174.5 feet long, 31.1 feet wide, 13.6 feet deep; 265 net, 573 gross tonnage, and 120 nominal horse-power.

She is in the lighthouse and buoy service, and at the beginning of the fiscal year was under the direction of the resident engineer, laying out new work at Rose Spit, Separation Point, Masset, and cape St. James. She landed stores at Langara lighthouse, placed a gas buoy at Dead Tree point, shifted Lawn Hill buoy to new position, transferred beacon from Kola point to Danger rock, and recharged gas buoys in vicinity of Prince Rupert. She proceeded to Channel rocks and placed a large gas

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buoy there, and from the 2nd to the 24th of June was landing annual supplies at the Gulf stations, after which she was laid up for repairs until the 4th of August, when she began recharging the automatic lights in the gulf of Georgia, and continued the buoy service there until the 26th of August, when she left for the north, took aboard the commander of the marine service at Prince Rupert for an inspection trip to Queen Charlotte islands to choose a site for a life-saving station. A lightkeeper and supplies were landed at Langara island, and materials at Massett light.

From October 21 until November 10, she was occupied in shipping, painting, and overhauling buoys from Queen Charlotte sound to Victoria, then proceeded to northern waters to refill acetylene beacons and buoys from Alaska to Queen Charlotte sound, carried workmen to cape St. James to complete tower, erect lantern, and instal apparatus and keeper, and returned to Victoria.

She left Victoria on the 7th of March, replaced Colburne passage buoys, landed supplies at Ballenas, and continued operations in those waters until the close of the fiscal year.

Leebro.

The *Leebro* is a wooden steam vessel, built at Victoria, B.C., in 1908, and is 123.5 feet long, 28.8 feet wide, 11.1 feet deep; 198 net, 324 gross tonnage, and 23 horsepower.

She was chartered by the department from the Crescent Shipping Company, Limited, of Victoria, B.C., during the year, and was employed in the lighthouse and buoy service under the control of British Columbia Agency.

On the 2nd of April, she began to remoor Sand Heads lightship, recharge gas buoys, which she continued until the 15th, when she was employed in painting moorings of Active Pass bell buoy, painting Snake Island buoy, overhauling buoys in Vancouver harbour until the 30th, when she sailed to the west coast with coal oil and other lighthouse supplies. She continued under the charge of the inspector of lights until the 5th of June, when she went to Vancouver, attended to buoys, and left for the west coast with construction materials and men on the 19th of June, continued work there until the 3rd of September, when she sailed to cape St. James and the wireless stations at Pachena, Estevan, and Triangle island with supplies.

On the 19th of November, she landed machinery at Discovery island, replaced buoys in vicinity of Sidney, and on the 1st of December began to land supplies and private stores for west coast stations, transferred lightkeepers at cape Beal station, and continued landing supplies, building beacons until the 19th of March, when she sailed for Triangle island with wireless supplies and operators; returned to Victoria and was reloading at Victoria at the close of the fiscal year.

Grainer.

The *Grainer* is a wooden steamer, built in Victoria, B.C., in 1909, and is 100.5 feet long, 33.0 feet wide, 8 feet deep; 88 net, 144 gross tonnage, and 19 horse-power.

She was chartered from the Butler Freighting and Towing Company, of Victoria, B.C.

At the beginning of the fiscal year the *Grainer* was recharging acetylene beacons in the gulf of Georgia. She transferred acetylene beacons from First Narrows,

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Burrard inlet, to Senans island. From the 28th of April to the 4th of July, she carried machinery from Victoria to First Narrows fog-alarm station, and loaded buoys at Active Pass for Victoria, after which she sailed with coal for Lennard island fog-alarm, and replaced crossing buoys in Clayoquot sound.

MONTREAL DIVISION.

Dollard.

The *Dollard* is a twin-screw steel vessel, built in Kingston, Ont., by the Collingwood Shipbuilding Company, Ltd., in 1912, and is 170 feet long, 31.6 feet wide, and 15.6 feet deep. She is furnished with two steel boilers, Scotch type, each of 180 pounds to the square inch pressure, and furnaces fitted to burn coal or oil fuel, two triple expansion engines, the cylinders of which are 12½, 21, and 34 inches diameter, and 21-inch stroke.

She was employed in the light and buoy service under the directions of the Montreal agency of this department during the fiscal year.

Shamrock.

The *Shamrock* is a single-screw wooden vessel, built in Quebec in 1894, is 117.3 feet long, 25 feet wide, 9.7 feet deep; 237 gross, 161 net tonnage, and 61 horse-power.

She is employed in the lighthouse and buoy service under the control of Montreal agency.

Verchères.

The tug *Verchères* was in the Montreal lighthouse and buoy service during the year.

Acetylene.

The *Acetylene* is generally employed attending the gas buoys under the control of Montreal agency.

Maggie May.

The *Maggie May* was chartered from Thomas Weir, Esq., of Chute au Blondeau, Que., during the season of navigation in the Ottawa river, where she was employed in the buoy service under the control of Montreal agency.

ONTARIO DISTRICT.

Scout.

The *Scout* is a wooden, single-screw vessel, 103.6 feet long, 25.6 feet wide, 9.2 feet deep; 70 net, 176 gross tonnage, and 27 horse-power.

She is employed in the lighthouse and buoy service in the upper St. Lawrence river.

Simcoe.

The *Simcoe* is a steel twin-screw vessel of 217 nominal horse-power, built by Swan, Hunter & Wingham, Richardson, Ltd., Newcastle-on-Tyne, G.B., in 1909, and is 180 feet long, 35.2 feet wide, 15.5 feet deep; 913 gross and 438 net tonnage.

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She is employed in the lighthouse and buoy service on the Great Lakes and Georgian bay.

Lambton.

The *Lambton* is a single-screw steel vessel of 89 horse-power, built in Sorel, Que., in 1909. She is 108 feet long, 25.1 feet wide, 12.7 feet deep; 324 gross, 182 net tonnage.

The *Lambton* is in the lighthouse and buoy construction and superintendence service, under the direction of the Chief Engineer's Branch.

From the beginning of the fiscal year until the 13th of May, she was employed by the agent of the department at Parry Sound. While there some repairs had been made to her cabins and other parts.

She was then used in the construction service until the close of navigation, when she was laid up at Parry Sound, where repairs were made to her decks, engine room, machinery, galley, hawse pipes, and boats; and the ship painted and made ready for next season's work.

Grenville.

Tenders were invited for the construction of a steamer to take the place of the *Scout* in the buoy service on the Upper St. Lawrence river. A contract was signed by the Polsons Iron Works to build a single-screw steel steamer for the sum of \$173,199, to be delivered at Prescott in 1914.

The leading dimensions of this steamer are to be 164 feet long over all, 155 feet between perpendiculars, 30 feet wide, and 13 feet deep.

The vessel is to be fitted with water ballast tanks and water-tight compartment bulkheads.

The engine to be triple expansion, developing 900 indicated horse-power, and Howden's forced draught system. Scotch tubular boilers are to be used, with a working pressure of 180 pounds to the square inch.

New Icebreaker.

Plans and specifications were prepared for an icebreaking steamer for the department. Tenders were invited, and a contract entered into on the 18th of March, 1914, with the Canadian Vickers, Limited, of Montreal, to build a steel twin-screw ice-breaking steamer for the sum of nine hundred and ninety-eight thousand five hundred and eighty-three dollars (\$998,583). This contract includes hull, engines, boilers, and auxiliary machinery.

The leading dimensions will be 292 feet in length over all, 275 feet between perpendiculars, 57 feet 6 inches extreme breadth, 32 feet in depth, and a draught of 19 feet.

The propelling engines will be two sets of triple-expansion surface-condensing engines with working parts 60 to 35 per cent in excess of Lloyds requirements. The boilers to be two double ended and four single ended Scotch boilers, allowing a working pressure of 180 pounds of steam per square inch.

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The hull will be divided by transverse and longitudinal water-tight bulk-heads.

The steamer is to be built under Lloyds special survey and in accordance with the Dominion Steamboat Inspection Act, and is to class 100 A.1 at Lloyds.

The contract is to be completed and vessels delivered at Quebec on or before the 30th of November, 1915. A fuller description of the icebreaker will appear in the annual report after her construction.

It is contemplated to use the steamer in the St. Lawrence river during winter to prevent ice jams, and for winter navigation purposes.

REPORT OF THE QUEBEC SALVAGE AND WRECKING COMPANY.

The entire plant has been held available for services from the opening to the close of navigation on the St. Lawrence river during the above mentioned period with a complete staff of wreckers and divers. Following operations have been performed:—
1912.

May 24, ss. *Ultonia* assisted vessel from Quebec to below the traverse.

September 25. Barge *Zapotec* sunk at Bersimis, floated her and brought her to Quebec.

October 6. ss. *Bengore Head* went to assistance and stood by her from Strait of Belle Isle to Quebec.

October 19. Barge *Omaha* towed her off from Bersimis.

October 31. ss. *Bellona* sunk at Lower Traverse, floated her and brought her to Quebec.

November 6. ss. *Royal George* ashore at St. Lawrence point, supplied her with pumps, pulled her off and brought her to Quebec.

November 10. ss. *Gladstone* ashore at St. Lawrence point, supplied her with pumps, pulled her off and brought her to Quebec.

1913.

May 31. ss. *Floriston* sunk at Pointe Platon, supplied her with pumps, lifted her and brought her to Quebec.

June 24. ss. *Cruizer* sunk at St. Catharine's bay, floated her and brought her to Quebec.

July 29. ss. *Lady of Gaspé* sunk off Cap de la Madeleine patched up hole 9 x 20 feet under water, lifted her and brought her to Quebec.

September 16. ss. *Whakatane*. This ship ran into Gilmour's wharf where she landed with her foreship, towed her off and brought her to Quebec.

October 16. ss. *Empress of Ireland* rendered diver's services clearing propellor.

METEOROLOGICAL SERVICE.

During the past fiscal year, the study of agricultural meteorology under Mr. R. W. Mills, B.S.A., has been inaugurated, and valuable practical results are anticipated.

Reports from 657 stations have been received at the central office—an increase of eighty over last year. The number of persons who received remuneration was 322; of this number thirty-six were at the central office—an increase of eighteen over last year.

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Weather charts were compiled twice a day during the year, based on reports from thirty-nine stations in Canada, 100 from the United States, five from Newfoundland, and one from Bermuda.

Forecasts based on those reports and those of British Columbia were published in bulletin form, posted in conspicuous positions in important centres of commerce, sent by telegraph and telephone lines to nearly all Canadian newspapers; and storm warnings issued to all stations in Canada and four in Newfoundland. of the 2,271 warnings thus issued 95 per cent were verified.

Phenological statistics of a valuable nature have been collected, records of magnetic elements secured without interruption, and careful observations made of declension, horizontal force, and inclination.

Assistance and instruction were given surveyors in the use of the total force instruments; and index corrections for magnets attached to eighty-eight surveyors' theodolites determined. Seventy-one determinations for time, by transit of stars, and eleven solar transits were made, the position of the stars taken from the American Ephemeris and Berliner Jahrbuch and collimation error, of transit instrument determined.

Owing to the increased demand made on the time service, a large magnet clock of four circuits and capable of controlling 120 secondary clock units, and a new mean time clock are being installed in the main building to be used in giving time over telephone and in synchronizing clock systems. Time has been exchanged between Toronto, Montreal, Quebec, and St. John, and a table denoting difference, compiled.

Solar observations were taken on 144 days, spots were seen on fourteen days, and maps made showing the positions of spots.

The total number of earth disturbances recorded by the Milne seismographs at Toronto and Victoria, B.C., was 105 and 98 respectively, the one on February 10 being felt severely in Eastern Canada, New England and New York state.

To facilitate meteorological and seismological research in British Columbia, a small observatory was erected on Gonzales hill, near Victoria, and a meteorological office opened in Vancouver.

Sixty-eight climatological stations have been opened through Canada during the year—twenty-two in British Columbia, nineteen in Alberta, twenty in Ontario, eighteen in Quebec, four in New Brunswick, three in Nova Scotia, and one in Prince Edward Island.

The director of the Quebec observatory reported that regular observations were taken, that instruments were in good order, and air hygrograph and self-recording rain gauge installed. Bulletins were regularly issued, posted, published in newspapers, and transmitted to leading centres by telegraph and telephone lines. Standard stars were observed, the correct time given by means of the time ball, the noon gun, and by telephone. Chronometers were rated, barometers compared and adjusted.

The director of the St. John, N.B., observatory reported that all instruments were in good condition, that regular observations have been taken and transmitted, requests for statistical and climatological information answered, weather bulletins daily printed, posted in prominent positions, and copies sent by mail, by telegraph, and by telephone lines. Time observations were taken with the meridian telescope on clear nights,

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results recorded on the chronograph, and errors of the sidereal clocks computed. Wire-less time signals were sent by the automatic apparatus at Camperdown, N.S., to navigators within range of that station.

MONTREAL HARBOUR COMMISSION.

The commission is composed, as last year, of Messrs. W. G. Ross, Farquhar Robertson, and A. E., Labelle, whose report presents in a concise and convenient form the chief features of the past year's operations.

Navigation opened much earlier than in 1912. The first vessels of the Richelieu and Ontario Company's steamers, the *Longueuil* and *Boucherville*, arrived in port on the 10th of April, and the first ocean steamer, the *Sokato*, arrived on the 21st of April.

In accordance with the recommendation of the Public Service Commission, a comptroller's department was organized that has full control and responsibility of all accounting and cost records of every department, the preparation of bills, the certifying of vouchers, time-keeping, and store records.

A harbour police department was organized to work in conjunction with the city police for the better protection of life and property on the water-front.

La Compagnie Generale Transatlantique opened communication between Havre, France, and Montreal; the *La Touraine* making two trips on that route; additional steamers were added to other lines.

In the commissioners' railway traffic department a decrease of 2,000 cars from the previous year was caused by the decrease in the quantity of apples, lumber, and hay shipped; but the business done at the sheds shows an increase of 12 per cent over that of the previous year.

GRAIN ELEVATORS.

Steps have been taken to increase the capacity of elevator No. 1 from 1,000,000 to 2,500,000 bushels, and the work is nearly completed.

The construction operations, however, were not allowed to interfere with the receiving and shipping of grain, as 15,554,282 bushels were received and delivered during 1913. This, in addition to 20,819,055 bushels received and delivered by elevator No. 2, and 7,459,933 transferred by the six floating elevators kept in commission, make a total of 43,833,270 bushels.

Employed in the conveyance and transfer of this grain were 1,827 cars, 548 steamers, and 638 barges. Of this amount, 43,349,291 bushels were shipped during the year.

Shed No. 16 on Victoria pier was allotted to the "Canada Line," and tracks and roadways were improved.

Two sheds to be known as sheds No. 24 and No. 25 are in course of construction on the end of the market basin.

Shed No. 24 will be 264 feet long and 105 feet wide, and is designed for the use of ocean and coasting vessels not requiring a larger shed. Shed No. 25 will be 484 feet long and 105 feet wide.

At the dry dock, all the reclamation work was completed, the approaches dredged and the quay wall built.

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A new wharf is being built at Pointe-aux-Trembles for the accommodation of the Cement Company and general traffic.

About 8 acres of dredging was done to a depth of 20 feet at L.W., south of St. Helen's island, to allow the flow of water to pass between St. Helen's island and the south shore, and 2 acres dredged to a depth of 10 feet at low water.

One dredge, *No. 6*, 104 by 39 by 10 feet 6 inches at bow; one derrick, *No. 7*, 88 feet by 31 feet by 9 feet 6 inches; one tug, *Passe-Partout*, 50 feet 6 inches by 12 feet by 7 feet 7 inches over all; and three scows were added to the plant during 1913.

The wharves, roads, lamps on wharves, and channels were kept in efficient repair.

The floating crane was in operation 127 days, making 422 lifts weighing 6,771½ tons.

The extent of wharves owned and operated by the harbour commission at the end of the season was, 3.859 miles of 30 feet depth of water alongside; 2.627 miles of 25 to 27 feet; 0.666 mile of 20 feet and under; total, 7.152 miles. And the grand total length of railway tracks in use was 37.9 miles.

The total amount received on revenue account was \$1,361,964.06—an increase of \$312,652.56 over that of the previous year. Besides this there was received \$1,940,000 from the Dominion Government.

The expenditure on revenue account for the same period was \$1,352,636.36, and on capital account, \$2,461,794.62.

The debenture debt was \$21,522,000—\$1,672,000 of which is to the public and \$19,850,000 to the Dominion Government—all bearing 3.344 per cent interest.

QUEBEC HARBOUR COMMISSION.

Many improvements have been made during the year. The bulkhead wall on Princess Louise embankment was begun, the "Long wharf" in Indian cove repaired and tracks laid upon it for a travelling derrick, and other improvements made. A wharf 160 feet long was built on the Quarry property, compressor plant and locomotive crane installed.

Two powerful dredges, six dump scows, and two tow boats were purchased.

A grain elevator having 1,000,000 bushels capacity is being built on the Louise Embankment. It is fireproof and will have marine tower, conveyer gallery, a dryer, and a self-contained floating elevator.

The car ferry terminals have been improved, 7,000 feet of track laid, and sheds improved. Two coal-discharging towers have been built on the wet dock.

The railway traffic on the commission's property was reorganized on the 1st of July, 1913, and put in charge of the traffic department, which uses three powerful switching locomotives for that purpose.

The number of vessels which entered the St. Charles docks and wharves was 413, having a total tonnage of 1,997,111 registered tons.

The harbour was open all winter, and ferry boats made regular trips. The report of the Quebec Harbour Commissioners forms an appendix to this report.

The revenue was \$232,334.73, the expenditure chargeable to revenue was \$229,307.90. The expenditure on capital account was \$2,843,153.58.

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THREE RIVERS HARBOUR COMMISSION.

The number of ocean vessels which entered the harbour of Three Rivers during the year 1913 was forty-three, with a registered tonnage of 104,373 tons. The United States (principally canal barges) numbered 439, with 51,665 registered tons, while the Canadian inland water vessels entered, were 689, with 130,644 registered tons—making a total of 1,171 vessels with 286,682 registered tons.

The principal imports were 89,652 tons hard and 12,455 tons soft coal, 10,400 tons sulphur, 1,017 tons pulp, 3,658 cords pulpwood, and 2,999,500 brick; and the principal exports, 45,581,000 feet of lumber, 32,389 cords pulpwood, 140,600 tons sand, 2,805 tons wood pulp, 622 tons concrete beams, and 1,911,000 laths.

The total receipts amounted to \$21,233.11, the total expenditure was \$17,984.17, and the amount in fund, \$28,569.28.

NORTH SYDNEY HARBOUR COMMISSION.

A roadway has been built, and much grading done on the breakwater property owned by the commission.

The amount of coal shipped during the year was 481,449 tons, and of iron ore, 127,560 tons; 8,260 tons of general merchandise were imported during the year.

The receipts amounted to \$5,415.75; the expenditure to \$4,906.49, and the balance on hand to \$509.26.

PICTOU HARBOUR COMMISSION.

The work principally done by this commission consisted of attending to, placing, and removing buoys, bushing the East river, and removing obstructions.

The collections from vessels on account of revenue were made at the custom-house, Pictou, and amounted to \$1,409.67, and the expenditure of the commissioners to \$285.56, leaving a balance of \$1,124.11.

TORONTO HARBOUR COMMISSION.

The report of 1912 referred to the change made in the administration and development of Toronto harbour. The preliminary arrangements were chiefly described in the report of last year, but in the report of this year the progress made in development and extension of the property under control of the harbour commissioners are fully described.

The importance of the undertaking may be realized by the fact that a contract was entered into by the commissioners for dredging, filling in, and reclamation in the proposed Industrial District and elsewhere, at a cost of \$3,950,000, with the option of increasing the extent of the work, from time to time, at the same cost per unit figure.

The Public Works Department of the Dominion Government has also made a contract for construction of a breakwater from Woodbine avenue to the eastern channel of the lake front, and for another breakwater to extend from the Humber river to the western channel on the western lake front.

The Government has also undertaken the construction of lift bridges across the eastern and western channels and over the ship channel at the industrial section.

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The Yonge Street dock, formerly under lease, was made a public dock for moorage purposes, landing, and shipping articles carried by vessels. A system of supervising the landing of goods, and storing them, was adopted at the public dock, and a tariff of tolls put in force.

An arrangement was made with the life-saving service of the Marine Department for aid from the Toronto life-saving station.

Advantageous arrangements were made for the exchange of property with the Canadian Pacific Railway, with a view of acquiring the control of the water-front. Riparian rights were secured in Ashbridges bay with the same object.

Steps were taken, leading to the construction of a viaduct across the railway tracks along the water-front.

Plans were made and adopted for a transportation system by radial railways to and from docks and the properties under control of the Harbour Commissioners; land and hydrographical surveys and special surveys for water data were made. Dredging was done and wharf construction was carried on, and plant was purchased for these operations.

The detailed report embracing all transactions is published as an appendix to this report. The report contains a statement of receipts amounting to \$1,236,070.39, including a debenture loan. The expenditure for all purposes amounted to \$1,241,272.75 for the year 1913. The expenditure by the Public Works Department is not included.

BELLEVILLE, ONT., HARBOUR COMMISSION.

The imports for the year ending the 31st December, 1913, consisted of 16,671 tons of coal, 76,000 feet of lumber, and 940 tons of general merchandise, the revenue from which was \$1,764.90.

The exports for the same period were 881 barrels of oil, 1,524 tons merchandise, and 1,050 tons of cheese, the revenue from which was \$283.83. The total revenue, therefore, was \$2,048.73. The balance on hand from previous year was \$451.93, making a total revenue account of \$2,500.66.

The total amount in the bank to the credit of the sinking fund was \$4,907.60.

STEAMBOAT INSPECTION.

Two appointments have been made in this branch of the service during the fiscal year. Mr. Thomas R. Ferguson, inspector of Dominion steamers, was appointed chairman of the board of steamboat inspection from the 1st of April, 1913, and Mr. Denis J. Murray was appointed inspector of boilers, machinery and ships' tackle at Halifax, N.S.

Mr. Frank McDonnell, assistant chairman, left Ottawa on the 28th of October, 1913, to attend the International Conference on Safety of Life at Sea, held in London, England.

The rules governing the inspection of boilers and machinery were discussed at several meetings held by the board of steamboat inspection with the object of determining their correct interpretation.

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The total number of vessels inspected, owned, or registered in the Dominion was 1,921, with a gross tonnage of 604,036 tons. The number owned or registered elsewhere was 185, total gross tonnage 252,414 tons. Number of vessels not inspected was 335, total gross tonnage 41,735 tons. The total number subject to inspection when in commission was 2,441, total gross tonnage 898,207 tons. The number of vessels added was 151, with a gross tonnage of 54,928 tons. The number lost or destroyed was 55, total gross tonnage 23,463 tons. The total fees collected on account of inspections and examinations of engineers was \$5,197.96.

LIST OF INSPECTORS.

Boilers and Machinery.

N. A. Currie, Halifax, N.S.
D. J. Murray, Halifax, N.S.
C. E. Dalton, St. John, N.B.
J. H. Fontaine, Quebec, Que.
F. X. Hamelin, Sorel, P.Q.
W. Laurie, Montreal, Que.
J. E. Lunan, Montreal, Que.
T. P. Thompson, Kingston, Ont.
J. Dodds, Toronto, Ont.

J. B. Stewart, Toronto, Ont.
G. M. Arnold, Toronto, Ont.
E. W. McKean, Collingwood, Ont.
W. J. Vigars, Port Arthur, Ont.
G. P. Phillips, Kenora, Ont.
B. Mantrop, Victoria, B.C.
W. J. Cullum, Victoria, B.C.
H. G. Robinson, Vancouver, B.C.
A. E. Hopper, Vancouver, B.C.

Hull Inspectors.

A. McDougall, Halifax, N.S.
I. J. Olive, St. John, N.B.
P. Duclos, Quebec, Que.
M. R. Davis, Kingston, Ont.

W. Evans, Toronto, Ont.
S. D. Andrews, Collingwood, Ont.
F. F. Pickard, Victoria, B.C.

INVESTIGATION INTO WRECKS.

H. St. G. Lindsay, Dominion Wreck Commissioner, reported seven preliminary, two departmental, and twenty-four formal investigations into causes of wrecks and casualties in Canadian waters during the fiscal year.

Five masters, two engineers, two second engineers, and two pilots were cautioned to be more careful in future. Six masters, two first and second officers, and one pilot were censured. One master's, one first officer's, and one pilot's papers were suspended for six months.

In ten investigations it was shown that no one was to blame. Two cases were referred to foreign authorities for action.

WRECKS AND CASUALTIES OF SEA-GOING AND INLAND WATERS VESSELS REPORTED.

The total number of wrecks reported as having occurred to Canadian vessels in foreign waters and to vessels in Canadian waters during the fiscal year was 289. Of this total, 218 were partial (164 sea-going and 54 inland waters). The total wrecks were 71 (50 sea-going and 21 inland waters).

The tonnage affected was 313,819.55 registered tons, 159,444.27 of this total being sea-going partial wrecks, 83,609.36 tons inland waters partial wrecks and 27,279.56 tons inland waters total wrecks.

Sixty-six sea-going and twenty-six inland waters vessels, having a total tonnage of 103,859.34 tons, did not report the amount of loss suffered in partial wrecks, and twenty sea-going vessels and ten inland waters vessels are reported to have suffered no loss.

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The total loss in vessels and cargoes reported was \$2,087,867.99. Of this total, \$1,396,827.97 was in sea-going vessels and \$691,040 in inland waters vessels.

The amount of loss reported as having been caused by partial wrecks and casualties was \$389,855.65 in sea-going and \$175,340 in inland waters vessels and cargoes; \$906,972.92 in sea-going and \$515,700 in inland water total wrecks.

The total loss of life is reported as 160.

MASTERS AND MATES CERTIFICATES.

EASTERN DIVISION.

During the fiscal year ending 31st March, 1914, 265 candidates were examined, thirteen for sea-going masters' certificates, forty-nine for coasting masters', sixteen for inland waters masters', sixty-five for minor water masters' and eight for temporary certificates were examined.

In the same division, fifteen were examined for sea-going first mates' certificates, and sixteen for sea-going second mates' certificates, sixty-two for coasting mates' certificates, and twenty-one for minor waters mates' certificates.

Fifty-four candidates failed: four for masters' sea-going certificates, seven for coasting, six for inland waters, and seven for minor waters masters' certificates; five candidates for mates and four for second mates' sea-going, ten for coasting, five for inland waters, and six for minor waters mates' certificates.

Nineteen underwent the sight test.

WESTERN DIVISION.

In the western division, 312 candidates were examined, one for sea-going masters' certificates, fifty-two for coasting, sixty-two for inland waters, twenty-three for minor waters, and twenty-one for temporary certificates for masters, six for sea-going mates, seven for sea-going second mates, fifty for coasting, sixty-two for inland waters, and twenty-eight for minor waters certificates for mates. Eight underwent the sight tests.

Fifty-three candidates failed: five for coasting masters', ten for inland waters, one for minor waters masters' certificates; eighteen for coasting, ten for inland waters, and nine for minor waters mates' certificates; the number that underwent the sight test was fourteen.

The total number of certificates issued during the year was 491, classified as follows: 276 to masters, 196 to mates, and 19 to second mates.

NAVIGATION SCHOOLS.

Six schools were in operation during certain portions of the year. The school at St. John, N.B., being started during the year, did not have regular sessions or attendance and therefore is not included in the list of total attendance.

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The following table shows where schools were held, the name of instructor, the number of sessions held, the total and average attendance at each school:—

Locality.	Instructor.	No. of days.	Total Attendance.	Average.
Quebec, Que.....	Capt. P. L. Lachance.....	240	1,239	· 5
North Sydney, N.S.....	" Jas. Sutherland.....	27	147	· 5
Yarmouth, N.S.....	" J. E. Murphy.....	31	177	· 5
St. John, N.B.....	" Rufus Cole.....	.....	.....	.....
Collingwood, Ont.....	" Geo. C. Coles.....	32	588	18+
Vancouver, B.C.....	" Chas. Eddie.....	17	298	17
Total.....	.....	347	2,449	7·06

SHIPPING AND DISCHARGING OF SEAMEN.

According to the eighty-four returns sent in by shipping masters during the year ending 31st December, 1913, 16,971 seamen were shipped, 13,046 discharged, and the sum of \$1,304.65 was collected as fees, which are retained by shipping masters.

The list of ports, the number of seamen shipped, the number discharged and the amount of fees collected in each province follows:—

—	No. of Returns.	Seamen Shipped.	Seamen Discharged.	Amount.
Quebec.....	2	1,199	1,615	\$ cts. 1,084 00
New Brunswick.....	11	2,026	778	1,312 00
Nova Scotia.....	57	8,360	6,776	6,253 30
Prince Edward Island.....	7	373	115	219 90
British Columbia.....	7	5,017	4,465	4,177 45
	84	16,975	13,749	13,046 65

PILOTAGE.

Thirty-one pilotage authorities sent in returns—twelve in Nova Scotia, twelve in New Brunswick, one in Prince Edward Island, two in Quebec, and four in British Columbia.

There are 124 commissioners, 302 pilots, and 54 apprentices on the lists, and 7,380 vessels paid pilotage to the amount of \$483,497.76 during the year.

A tabulated statement which precedes appendix No. 15 shows some of the particulars respecting pilotage districts.

SICK AND DISTRESSED MARINERS.

Under the provisions of the Canada Shipping Act, chapter 113, part 5, s. 384, R.S., dues of 1½ cents per ton, registered tonnage, are levied on every vessel entering any port of the provinces of Quebec, Nova Scotia, New Brunswick, Prince Edward Island,

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and British Columbia. The money thus collected forms the "Sick Mariners' Fund." Vessels of the burden of 100 tons and less pay duty once in each calendar year, and vessels of more than 100 tons, registered tonnage, three times in each year.

The officers and seamen of all fishing vessels not registered in Canada do not pay sick mariners' dues nor participate in the benefits accruing therefrom, but such vessels registered in Canada may pay dues and participate in the benefits; and if of more than 100 tons, only for the voyage at the beginning of which payment has been made; such vessels shall enjoy the same rights and benefits as are enjoyed by vessels which pay dues and are not engaged in fishing.

The Act, chapter 113, Canadian Shipping, does not apply to the province of Ontario, so no dues are collected from vessels in that province.

PROVINCE OF QUEBEC.

At the port of Quebec, sick mariners are cared for at the Jeffrey Hale and Hotel Dieu hospitals, at a per diem allowance of \$1.50 for each seaman, including medical attendance and board.

At the port of Montreal, sick mariners are cared for at the General and Notre Dame hospitals, the charges at each institution being \$1.50 a day, including board and medical attendance. Infectious and contagious diseases are attended at the Alexandra and St. Paul hospitals.

At the port of Three Rivers, sick mariners are cared for at the St. Joseph's hospital, per diem rate, 90 cents for each seaman. The medical officer receives \$350 per annum for his services.

At the port of Chicoutimi, sick mariners are cared for at the St. Valier hospital; rate, \$1.20 a day for each seaman, including treatment and board.

At the port of St. Johns the mariners are attached at the St. Johns hospital; rate, 90 cents a day. The medical officer receives a salary of \$600 a year.

At the ports of Rimouski, Montmagny, Sorel, and Rivière-du-Loup, sick mariners are attended at the local hospitals, and the medical services are rendered by the port physician.

PROVINCE OF NOVA SCOTIA.

Marine hospitals are maintained at Louisburg, Lunenburg, Sydney, and Yarmouth.

At the port of Halifax, sick mariners are cared for at Victoria General hospital; rate, \$1.50 a day, including board and treatment. Contagious cases are treated at the City Isolation hospital.

At Pictou, sick mariners are taken to the Pictou Cottage hospital; rate, \$1 a day. The medical officer is paid a yearly salary of \$400.

At North Sydney, sick mariners are attended at the Hamilton Memorial hospital; rate, \$1 a day. The medical officer receives a salary of \$750 a year, including drugs supplied.

At Windsor, sick mariners are treated at the Payzant Memorial hospital; rate, \$1 a day. The medical officer receives a salary of \$120 a year.

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At Amherst, sick mariners are treated at the Island View hospital; rate, \$4.50 a week. The medical and surgical services are rendered by the port physician.

At Parrsboro and vicinity, sick mariners are taken to the Cottage hospital at Springhill; rate, \$1.50 a day, including all costs.

At the port of Digby, sick mariners are treated in designated hospital; rate, \$3 a week, besides a salary of \$50 for the caretaker. The medical officer receives a salary of \$250 a year.

PROVINCE OF BRITISH COLUMBIA.

At Victoria, sick mariners are treated at the St. Joseph's hospital; rate, \$1.40 a day. The medical officer receives a salary of \$600 a year.

At Vancouver, sick mariners are treated at the St. Paul hospital; rate, \$1.50 a day, including all costs.

At Nanaimo, seamen are treated at the Nanaimo hospital; rate, \$1 a day. The medical officer receives a salary of \$600 a year.

At New Westminster, sick mariners are taken to the Royal Columbia hospital; rate, \$1 a day.

At Chemainus and Ladysmith, sick mariners are treated in the local hospitals at the rate of \$1 a day, besides medical and surgical services.

At Prince Rupert, sick mariners are treated in the Prince Rupert General hospital; rate, \$2 a day.

PROVINCE OF NEW BRUNSWICK.

A marine hospital is operated and maintained at Douglastown for sick mariners arriving at Chatham, Newcastle, and vicinity. The medical officer receives a salary of \$450 a year, and the keeper \$250 a year.

At St. John, sick mariners are treated in the General Public Commissioners' hospital; rate, \$1.50 a day, including all costs.

At Campbellton, treatment is given at Hotel Dieu hospital; rate, \$5 a week. The medical officer receives a salary of \$350 per annum.

At Moncton, sick mariners are treated at the Moncton hospital; rate, \$4 a week. The medical officer receives a salary of \$200 a year.

PROVINCE OF PRINCE EDWARD ISLAND.

At Charlottetown, sick mariners are treated in the Charlottetown and Prince Edward Island hospitals; rate, \$1.50 a day, including all costs.

At Summerside, sick mariners are treated at the Prince County hospital, rate, \$1 a day. The port physician receives a salary of \$250 a year.

Where no hospital is maintained in any port of the maritime provinces, Quebec, or British Columbia, the collectors of customs are authorized to care for sick mariners entitled to receive the benefits of the fund.

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Statement of receipts and expenditure on account of "Sick and Distressed Seamen" from the fiscal year 1904 to 1913, both inclusive:—

	Receipts.	Expenditure.
	\$ cts.	\$ cts.
1904.....	61,778 29	50,801 78
1905.....	58,372 34	51,000 18
1906.....	60,183 90	50,120 42
1907.....	44,704 59	34,362 11
1908.....	69,364 45	59,957 92
1909.....	53,732 31	66,349 26
1910.....	55,567 41	54,859 50
1911.....	60,637 11	54,779 27
1912.....	65,663 41	52,172 75
1913.....	70,540 52	54,294 71

Total amount of salaries paid to medical officers during the year 1913-14 was \$14,897.50.

Number of seamen treated was 3,245, compared with 3,187 in the preceding year, while the number of days of hospital treatment was 22,140.

Number of vessels which paid sick mariners dues during the year 1913-14 was 3,062, and the number of men employed on these vessels, 59,250.

PORT WARDENS.

Fifteen port wardens reported the transactions in connection with their offices during the year; seven of the reports are from Nova Scotia, three from New Brunswick, two from Quebec, three from British Columbia.

The services rendered consisted of surveys of hatches, cargoes, and hulls; the surveys of hulls were principally for seaworthy certificates, and the surveys of cargoes to estimate damage received on the voyages; the hatch surveys were made to ascertain the condition of the cargoes on arrival.

In the case of Montreal, the port warden's report includes shipments of grain and other products, and the time of the opening and closing of the season of navigation.

The fees collected by the port wardens who reported amounted to \$15,059.72; these fees are according to the Port Wardens' Act, which regulates the charge for the kind of surveys made; in some instances not exceeding \$8, and in others not exceeding \$20.

A detailed statement of shipments, receipts and expenditures will be found in the returns of the Board of Trade for the port of Montreal.

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LIST OF PORT WARDENS WHO MADE RETURNS AND THE AMOUNT OF FEES COLLECTED.

Port.	Port Warden.	Fees.
		\$ cts.
Annapolis, N.S.	Joseph Malleson	Nil.
Chatham, N.B.	M. A. Goggin	"
Halifax, N.S.	Neil Hall	2,736 14
Louisburg, N.S.	D. J. Matheson	112 00
Moncton, N.B.	R. C. Bacon	Nil.
Montreal, P.Q.	Archibald Reid	9,711 98
Nanaimo, B.C.	J. S. Knarston	21 00
North Sydney, N.S.	W. H. Kelly	116 00
Port Hawkesbury, N.S.	Nicholas Martin	103 00
Prince Edward Island	George H. Holbrook	12 50
Quebec, P.Q.	Alex. Russell	1,057 10
St. Andrews, N.B.	John Wren	5 00
Sydney, (Intrl. Pier.) N.S.	Nelson H. Townsend	600 00
Victoria, B.C.	Charles E. Clarke	432 50
Yarmouth, N.S.	R. M. Ferguson	152 50
		15,059 72

CORRESPONDENCE AND RECORDS BRANCH.

The Records Branch of the department embraces the receiving and despatching of letters. The letters and telegrams received are registered, numbered, stamped with date received, indexed, placed on files, and the files charged and distributed to the officers who take action upon the letters and telegrams. Copies of letters are placed upon the files, and the files examined to ascertain if all letters have been answered or acknowledged, and then they are discharged and placed in receptacles.

The registering of letters consists of entering the number of the file and a brief synopsis of the subject of the letter; the indexing includes pages of personal names in a book, and the card system, locality names, subjects, and vessel names.

The letters and telegrams despatched are copied in letterpress books and indexed. The number of letters despatched during the year was 41,121. The increase in the numbers of letters received and despatched during the last ten years shows the growth of the work of the department and consequent increase of staff, as a whole, including the Records Branch. An establishment record is maintained in this branch in which the names of all employees of the department, with particulars of service, are recorded.

The letters received in 1901 numbered 18,741, and despatched, 13,000; while in the past year 52,605 were received and 41,121 despatched.

LIVE STOCK SHIPMENTS.

The inspectors of live stock shipments at the port of Montreal report that 134 horses, 512 cattle, 97 mules, and 296 sheep were shipped to Great Britain from 1st of May to 30th November, 1913.

No returns have been received by the department from the ports of Halifax and St. John.

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SAFETY OF LIFE AT SEA CONVENTION.

His Majesty's Government invited a number of maritime States to a conference to be held in London in November, 1913, to consider the question of international regulations for the safety of life at sea on board ships engaged in maritime traffic, particularly passenger steamers.

Invitations were sent to Germany, Austria, France, United States of America, Belgium, Denmark, Spain, Russia, Sweden, Norway, Italy, Holland, Canada, Australia, and New Zealand, requesting the appointment of plenipotentiaries to take part in the conference.

His Majesty's Government was impressed with the necessity of adopting more effective means to secure the safety of life at sea. The investigation into the loss of the *Titanic* revealed many defects in the existing appliances for saving life, and in the construction of large passenger steamers that had met with accidents at sea resulting in great loss of life.

Upon the recommendation of the Minister of Marine and Fisheries, and the Secretary of State for External Affairs, I was appointed the representative of Canada to the conference, with powers to sign a Convention at the conclusion of the conference.

Before proceeding to London, I deemed it advisable to obtain opinions and suggestions from steamboat owners, marine associations, agents, and others, familiar with the rules, discipline, practice, and equipment generally applied, in accordance with the then existing regulations in force under the laws relating to merchant shipping. Ready responses were received to the inquiries, containing valuable suggestions on safety of life at sea.

For the purpose of consultation at the conference relating to technical details of Canadian requirements, Mr. C. M. F. Duguid, Chief Naval Constructor to the department, and Mr. Frank McDonell, Assistant Chairman of the Board of Steamboat Inspection, accompanied me to London, and to this consulting staff was added Major H. Maitland Kersey, Manager in Chief of the Ocean Service of the Canadian Pacific Railway Company, resident in London.

To these, by reason of the intelligent participation in the deliberations of the various committees, I am indebted for the prominent part that Canada was enabled to take at the conference.

The department owes especial thanks to Major Kersey, who, at considerable sacrifice and without remuneration, was unfailing in his attendance at the committee meetings, where his very extensive knowledge of all matters relating to the construction and equipment of steamships was of very great advantage.

The conference held its first meeting in London on the 12th of November, 1913, at which delegates from all the countries above mentioned were present.

Lord Mersey was chosen chairman, and general secretaries were appointed.

A programme was decided upon for a systematic investigation and consideration of revised and improved regulations, to be known as International Regulations or Rules.

Five committees were appointed, and a principal subject assigned to each committee for its deliberation and conclusions, signified by its adoption of resolutions. The five principal subjects were the safety of navigation, safety of construction, wire-

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less telegraphy, life-saving appliances, and the issuing of certificates to ships of the Contracting States, which complied with the requirements of the Convention, to be valid in all the countries, as evidence of compliance by the vessel with the Convention.

The committees were convened by chairmen, and discussed the subjects assigned to them in all the necessary details considered relevant to the particular subject or question.

The conclusions were embodied in resolutions adopted by each committee. Sessions of committees were held almost daily, until all of the proposed regulations were considered ready for adoption by the conference as a whole, after the committees had concluded their work.

The conference was re-convened by Lord Mersey, and summarized notes, prepared by each committee, were read.

On the 20th of January, 1914, the regulations were agreed to unanimously, and on the following day the document containing the regulations in full was signed by the representatives from each country.

Minutes of each committee have been published separately, in English and French, and the document termed the International Convention for the Safety of Human Life at Sea, embodying all the new regulations proposed, with the names of the signatories, has also been published in both languages. The latter publication embraces all questions and matters pertaining to the proposed rules and regulations to be observed, as the minimum of the standard of the Convention. Chapters under the caption of each principal subject are subdivided by articles numbered consecutively from the beginning of Chapter I to the end of Chapter V. By this simple arrangement each chapter and the number of the article can be quoted in referring to any particular regulation.

In this necessarily brief report, only the main features of the conference are described, and that in a general way. Brief references to the subject-matter of each chapter of the regulations will doubtless be interesting to shipping men concerned in safety of life and to the public travelling by water.

Certificates to ships, issued by countries agreeing to the Convention, will have their value in showing that the ship has complied with the requirements of the Convention, or a system approved by the Administration of a participating State equally effective, or surpassing the Convention.

Navigation as applied especially to the dangers met with in ocean traffic, particularly in the North Atlantic, viz., icebergs and derelicts, was extensively considered. Patrolling the North Atlantic ocean is proposed with a view of warning ocean-going vessels, by wireless telegraphy, of the vicinity of icebergs, also reporting the localities of derelicts and destroying the same.

The proposal to place this service under the control of the United States, with certain countries contributing to the cost, is one of the provisions of the Convention. In addition, vessels aware of dangers of this class are supposed to warn other vessels on the ocean, by means of an approved code.

The chapter on safety of construction divides vessels into two classes, vessels existing and vessels to be built after the Convention goes into effect. Construction of vessels with regard to safety being a technical matter, is involved in many compli-

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cations. The question of water-tight compartments, suitable for the service in which the vessel is employed, is one of the most difficult and important regulations framed by the committee charged with the labour of considering the safety of construction. Provisions are made for the survey of both new and old vessels.

Provisions for wireless telegraphy installations, contemplate the use of apparatus on all vessels going beyond 150 sea miles from land. Ships are placed in categories of the Radio-Telegraph Convention; ocean-going passenger steamers to be placed in the first category, and steamers not carrying more than twenty-five passengers in the third category.

Life-saving appliances completes the list of principal subjects or chapters of the Convention. Types of life-saving and other boats are recommended with dimensions of sufficient capacity for the class of steamers supplied with them. Drills and muster are specified proposals; life jackets, life buoys, and life-saving rafts are among the requirements of the regulations under this head.

The Convention was signed by the representatives of the participating States with the understanding that it would only have effect in countries ratifying the Convention. Provision has also been made for the participation of other countries expressing a willingness to apply the regulations of the International Convention. The conference decided that the Convention shall come into effect on July 2, 1915, if approved by the signatory States.

LEGISLATION.

An Act to amend the law relating to Merchant Shipping with a view to enable certain conventions to be carried into effect.

An Act respecting the harbour of North Sydney, N.S.

An Act to amend an Act to incorporate the Harbour Commissioners of Vancouver.

An Act to provide for further advances to the Harbour Commissioners of Montreal.

An Act to amend the Montreal Harbour Commissioners Act, 1894.

An Act to provide for further advances to the Quebec Harbour Commissioners.

An Act to amend Part VI of the Canada Shipping Act.

An Act to amend Part X of the Canada Shipping Act.

A. JOHNSTON,

Deputy Minister of Marine and Fisheries Department.

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APPENDIX No. 1.

ANNUAL REPORT OF THE CHIEF ENGINEER OF THE DEPARTMENT
OF MARINE AND FISHERIES.

The Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit the following report of work done in the several services under the supervision of this office during the twelve months ended March 31, 1914.

There have been no changes in the duties pertaining to this branch during the past year; they remain as enumerated in previous reports.

STAFF.

The following changes have been made in the staff of my office:—

J. B. Christie, draughtsman, resigned, June 20, 1913; N. T. Binks, draughtsman, resigned, October 21, 1913; S. J. Wight, temporarily appointed April 7, 1913; resigned, April 8, 1913; D. L. McDougall, draughtsman, temporarily appointed, September 1, 1913; left March 18, 1914; B. E. Parry, draughtsman, temporarily appointed, September 25, 1913; engagement concluded, February 2, 1914; Miss M. Hickey, clerk, temporarily appointed June 25, 1913; transferred June 30, 1913; G. H. Raitt, clerk, temporarily appointed May 28, 1913; resigned July 3, 1913; G. S. Macdonald, assistant engineer, temporarily appointed January 19, 1914; transferred to St. John, March 27, 1914; A. C. Andrésen, draughtsman, temporarily employed August 13, 1913; P. L. Kuhring, assistant engineer, temporarily employed November 19, 1913; Miss Mary T. Edwards, clerk, permanently appointed July 5, 1914; Hope V. Anderson, mechanical engineer, permanently appointed, August 11, 1913.

The following members of the staff have been employed in superintending work away from headquarters:

Mr. F. P. Jennings, assistant engineer, was in charge of the construction work on the enlargement of the Prescott depot from May 28, 1913, to the end of the fiscal year.

Mr. J. Henderson was in charge of extensive repairs at Gannet rock and Machias Seal island light stations from May 16 to November 27. Shortly after his return to Ottawa he was taken seriously ill and had not been able to return to duty up to the first of the year.

I regret to report more than an ordinary percentage of illness amongst the staff during the past year, and would suggest a more rigid medical inspection of candidates for appointment to the Civil Service.

OFFICE WORK.

The largest part of the work done by the general staff of the branch consists in the construction, repair, and improvement of light buildings, fog alarms, beacons, and other aids to navigation, the supply of new or improved illuminating apparatus, etc., the payment of expenditures for these services being made out of the vote of \$1,000,000 for construction of aids to navigation. Full details of the work done in

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this connection during the past year are contained in a separate report in tabular form attached hereto which gives a complete statement of all expenditure charged to the vote in question. (Enclosure A.)

In addition to the work of this branch done under the above vote, the staff have been called upon to perform work of varied description for other branches of the department, and which may be summed up as follows:—

For the Meteorological Service Branch.—Erection of storm signal masts at North Sydney, N.S., and Sydney, Cape Breton.

For the Life Saving Branch.—Construction of a combined boat-house and dwelling at Uchuelet, B.C.

Improvements and extensions to boat-house construction and septic tank, drainage, and erection of a 4-section steel skeleton lookout tower at Toronto, Ont.

The work of completion of titles to all properties owned by this department, mentioned in my last year's annual report, has been satisfactorily continued, and during the past twelve months, 158 deeds and other title documents to lighthouse properties have been added to our records. In the case of all new properties acquired, expropriation plans and descriptions are filed in addition to the usual notarial deeds as an extra precaution.

The work in connection with applications for water lots has been very heavy, as will be seen by reference to the draughting-room statistics. Every application has to be examined, entered on an index plan, plans and descriptions checked, and the proposition reported on and valued. This involves a great deal of detail and takes the time of one draughtsman. Both these branches of work are in charge of Mr. J. W. G. Roberts, whom I desire again to favourably mention.

Plans and specifications for all important new buildings and repairs, new vessels, etc., are made or approved in this office.

The following table indicates the work done in the draughting office during the twelve months ended March 31, 1914:—

Description of Work.	Plans Designed.	Plans Received.	Copies Made.
Lighthouse towers and dwellings.....	32	2	450
Fog alarm buildings.....	12		230
Details.....	39	3	340
Wharves, piers, etc.....	11	39	66
Outbuildings.....	18	3	144
Machinery.....	14	16	152
Lanterns and illuminating apparatus.....	30	79	400
Buoys and appurtenances.....	9	30	506
Beacons.....		10	10
Steamers.....		80	32
Land surveys.....	98	149	473
Plans relating to waterlot applications.....	34	533	129
Miscellaneous.....	77	442	310

Total plans for 12 months from April 1, 1913, to March 31, 1914.....	5,001
Charts received and recorded.....	402
Charts received and entered in chart books.....	51
Photographs received and recorded.....	403
Specifications and bill of material written.....	140
Notices to mariners issued (comprising 487 subjects).....	151

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PUBLICATIONS.

The work of preparing and issuing notices to mariners continues to be heavy and urgent. During the past twelve months, 151 notices, covering 487 subjects have been published, being an increase of 28 notices and 126 subjects over last year. Amongst important notices, involving considerable labour in compilation, and representing useful work done in the department are:—

Warnings and directions to vessels approaching Canadian ports during military manœuvres, or on certain other public occasions.

Signals to be made by vessels approaching Canadian ports when inconvenienced by searchlights.

Two items relating to ice patrol service off the east coast of North America, to locate the icebergs and field-ice nearest to the trans-Atlantic steamship routes.

Weather probabilities communicated from all the radiotelegraph stations under the control of the Department of the Naval Service of Canada to any ship asking for them.

Particulars and list of Canadian radio-telegraph stations throughout Canada.

Establishment of telephone connection between Devil island life-saving station, in the approach to Halifax and the mainland.

Regulations governing the opening, closing, and lighting of the railway swing bridge between Goat island and Manitoulin island.

Description of improvements being made by the Department of Public Works in Courtenay bay, St. John harbour, including dredging of a channel and construction of a breakwater and dry dock.

List of buoys marking the Repentigny channel of the river St. Lawrence, from Lavaltrie to Ile Deslauriers, and description of five sets of range lights established to mark the same channel.

A complete list of buoys and beacons in Byng inlet and its approach, with hydrographic notes.

Hydrographic information respecting Newcastle harbour, lake Ontario.

Description of dredging performed and buoys established in Matchedash bay, from Fesserton, Ont., to Coldwater creek; and dredging done in Coldwater creek up to Coldwater.

Description of buoys in the approaches to Toronto harbour.

Description of buoyage of Guysborough harbour.

Description of changes made in the buoyage of Bar channel, Detroit river.

Description and list of beacons marking the channels of the Big slue, the Serpentine and Nicomekl river, at Mud bay, Boundary bay, B.C.

Twenty-one items were published describing dredging operations performed by the Department of Public Works in different parts of the Dominion.

During the past twelve months notices relating to waters outside of Canada were issued, covering fourteen items relating to Newfoundland and Labrador, twenty-two items relating to the inland, and seven to the Pacific waters of the United States, as well as nine notices referring to transatlantic and one notice relating to transpacific subjects. No attempt is made to issue a complete synopsis of British or foreign notices, but merely to publish items likely to be of immediate interest to Canadian vessels, or to vessels leaving Canadian ports for the more important or frequented foreign ports.

The annual edition of the "List of Lights and Fog Signals" was prepared and published in three separate volumes, one for the Atlantic coast and the river St. Lawrence to head of ocean navigation; one for the inland waters of Canada, and the third for the Pacific coast.

A new edition of the "List of Buoys, Beacons, and Day Marks" on the Pacific coast of the Dominion of Canada was prepared and published, thoroughly revised and corrected by the undersigned personally, to the first of January, 1914.

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I can again commend Mr. J. M. O'Hanly for the careful and conscientious work he devotes to this division of my branch's work.

PERSONAL INSPECTIONS.

During the past fiscal year, as in former years, several inspections of works under the control of the Marine Branch of the department were made for the purpose of locating new aids to navigation, inspecting contract work, or examining existing aids, to decide upon improvements or repairs required. These were made both by the chief engineer and his chief assistant, and the opinion is expressed that such inspections are a most necessary and useful part of the official routine, and that more general and frequent inspections of all construction work would conduce to more efficient completion of work.

Amongst the more important trips taken by the chief engineer may be enumerated: a general inspection of aids on the Great Lakes in June, 1913; an inspection from Quebec to Belle Isle with the deputy minister in July; an inspection of the lakes in company with the deputy minister as far as Port Arthur in August, and a return with the minister and Senator Thorne in September to Prescott; inspections and construction work on the bay of Quinte in September and October; an inspection of the new departmental depot at St. John in January, 1914; and attendance at the annual meeting of the Lake Carriers' Association in Detroit in the same month, when matters of great interest to the Canadian marine were discussed. One point of importance brought out was the unanimous verdict of the most skilled navigators on the lakes, that no blame could be attached to Canadian aids to navigation in connection with the disasters that occurred in the great November storm, and that no provision, in the way of aids to navigation, could have lessened that disaster.

The principal trips taken during the past fiscal year by Mr. Fraser, my chief assistant, were in connection with the following works:—

In April, 1913, Mr. Fraser took personal charge of the movement of the grain fleet from the head of lake Superior. This involved ice-breaking operations at the foot of the lake, of considerable extent and difficulty. He also gave a great deal of personal attention to the remodelling and extension of the workshops at Prescott, and the installation of the depots at St. John and Victoria. A number of visits were made to Prescott, several visits were made to St. John, and in November a visit was made to Victoria, where arrangements were made for beginning work on the new depot at that place.

DEPARTMENTAL DEPOTS.

I view with great satisfaction the work done during the past year in the development of departmental depots, being convinced that this progressive policy will result in increased efficiency as well as great economy in the management of the lighthouse, buoy and other departmental services. The Chief Engineer's Branch has been mainly instrumental in this development.

The depot at Prince Rupert reported completed last year, has not been utilized to its full capacity, in consequence of the inability of the department to allot a steam tender for the station.

At Victoria, B.C., a site for a depot has been secured from the Provincial Government on the Songhees reserve, adjoining Johnston street bridge, where there is ample room for wharf and store accommodation close to the heart of the city. Plans have been prepared, and a contract let to Messrs. Parks, Tupper and Kirkpatrick at a price of \$20,450 for the grading of the lot and the construction of a creosoted pile wharf, of "L" shape, having 420 feet frontage. This work, when completed, will relieve a long-standing congestion in this important centre. The site of the wharf has been dredged by the Department of Public Works to give a berth with a least depth of 20 feet.

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At the St. John, N.B., depot, the work has made satisfactory progress, the main walls of the principal wharf having been completed, but the northeast corner and the filling remain to be done. All dredging of the berth is also completed to 20 feet at low water. The necessary buildings for this depot are now being designed.

In addition to the original contract, the filling-in of the shore ends of the wharf has been allotted to the same firm at a price of about \$31,300, figures being based on original contract rates.

The changes and additions contemplated to the Prescott depot have been duly carried out, within the original estimate, and the old starch-works building is now a first-rate machine and carpenter shop and storehouse in which the departmental manufacturing and shipping is being done with great success and satisfaction. The changes were made under the direction of Mr. F. P. Jennings, of my staff, and I desire to express appreciation of his good services and satisfactory designing.

REMOVAL OF OBSTRUCTIONS.

During the past twelve months the following work has been done, under the annual appropriation for the removal of wrecks and obstructions:—

Two wrecks, the *Douglas* and *Monguagon* in the Detroit river near Windsor, Ont., were removed by Captain W. B. Sphears, of Windsor, under contract for the sum of \$400.

The steamer *City of London* was wrecked this year in lake Erie, near Amherstburg, and will be removed next year, the cost of lighting the same being \$637.

The tug *Maxwell* was left in a sinking condition in the harbour at Port Stanley. The cost of preventing the same from being a menace to navigation, being \$54.03, will be collected from the owner.

Two sunken dump scows and the hulk of an old side-wheel steamer *William*, which were lying across the channel leading into the harbour at Valleyfield, were removed by this department at a cost of \$89.60.

A number of small expenditures, such as tug hire, advertising, and incidental expenses were incurred, and the total amount expended this year of the vote for removal of wrecks is \$1,365.56.

ICE-BREAKING.

1. The Canadian Towing and Wrecking Company, Limited, of Port Arthur, contracted with the department to keep the harbours of Port Arthur, Fort William, and West Fort William open for navigation until December 17, 1913, and to open those harbours in the spring of 1914 in time to admit upward-bound vessels to enter the harbours as soon as the Sault Ste. Marie canal should be open for navigation. The contract price was \$19,250, which included an agreement to remove all light-keepers in the vicinity from their stations at the close of navigation in 1913.

2. Early in the spring of 1913, strong representations were made to the Department of Marine and Fisheries that an early opening of navigation would be of great benefit to the country, and that owing to the exceptional strength of the ice in the Soo river and Whitefish bay, ice-breaking operations should be carried on. My chief assistant was immediately sent to the locality to investigate conditions and report. After careful inquiry he recommended in favour of work being done, and the icebreaking steamer *St. Ignace* was procured and successfully carried out the work. This proved heavier than anticipated. The work started on the morning of the 16th April, and the upward and downward fleets met at Whitefish bay on the morning of the 23rd and were passed. Owing to the heavy ice the breaker was kept at work for two days longer. The total cost of the work was \$9,800, and this incidentally covered the breaking of the ice from Detour to Sault Ste. Marie, advancing the season at the Soo by at least two weeks. Mr. Fraser reported that from the best information obtainable it appeared that some \$60,000,000 worth of Canadian

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grain was tied up at the head of lake Superior, and that a considerable portion of this was in danger of deterioration, that by prompt moving of the grain the value of the same would immediately become available for use in Western Canada, that the heavy storage charges would be reduced, that the large fleet of boats lying idle would be relieved for other transportation purposes where they were urgently required. Another element was the urgent need of coal in the western country. Owing to unprecedented shortage of cars in the previous autumn the orders placed could not be filled, and there was an unusual dearth of fuel.

It is of course impossible to say to what extent the opening of navigation was advanced by the work, but if this were only one day the expenditure would be amply justified.

3. A contract was entered into with S. Shipman, of Sault Ste. Marie, Ont., to keep free from ice the channel between Kensington point, on the north shore of St. Joseph channel, and a convenient landing on St. Joseph island or Campement d'Ours island, the work beginning in the autumn of 1913 and continuing until the ice had formed to sufficient thickness to permit teams of horses to cross in safety. The work also included the breaking of a channel in the spring before the ice became dangerous, and keeping the channel free until general navigation was resumed. The contract price was \$500.

4. The usual contribution of \$300 was made towards keeping open the St. Croix river in the vicinity of St. Stephen. The annual cost of this work is in the neighbourhood of \$1,000 and the department of late years has contributed \$300 a year towards this, the remainder being made up locally.

Respectfully submitted,

WM. P. ANDERSON, M.Inst. C.E.,

Chief Engineer.

CHIEF ENGINEER'S OFFICE,
DEPARTMENT OF MARINE AND FISHERIES,
OTTAWA, April 1, 1914.

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(Enclosure A.)

DETAILED REPORT OF THE CHIEF ENGINEER OF THE DEPARTMENT OF MARINE AND FISHERIES ON CONSTRUCTION, ESTABLISHMENT AND IMPROVEMENT OF LIGHTHOUSES AND OTHER AIDS TO NAVIGATION, UP TO MARCH 31, 1914.

To the Deputy Minister,
Department of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit a detailed report on work done in the construction and establishment of aids to navigation, for the twelve months ending March 31, 1914.

This statement is put in tabular form, and includes all expenditures incurred during the year against the vote of one million dollars for construction, etc., and no work done chargeable to other votes.

NOVA SCOTIA.

NEW AIDS TO NAVIGATION.

Lightstation.	Nature of the work.	How performed.	Contractor or foreman.	Expenditure during fiscal year.
				\$ cts.
Five Islands....	Erection of wooden lighthouse tower. Inspection and incidental expenses.	Contract.....	A. L. Mury, West Arichat.....	750 00 156 18
Ile Haute.....	Provision of a hand fog horn....			
New Harbour...	Erection of a pole light with shed at base, having a lantern with hoisting gear....	Day labour.....	E. J. Geizer	262 31
Salvages	Erection of a fog-alarm building, dwelling, outbuilding, and installation of class "E" diaphone plant and type "G" diaphone.....	Day labour.....	J. L. Coulter	7,868 79
Tanner Island ..	Erection of wooden lighthouse tower, and installation of a 5th order lens.	Contract	A. L. Mury, West Arichat	728 00 46 87
	Inspection and incidental expenses.....			

CHANGES AND IMPROVEMENTS IN EXISTING AIDS.

Baccaro	Illuminating apparatus improved by the installation of a quadruple flash reflector with 85 mm. burner.	Day labour.....	E. J. Geizer.....	75 63
Boars Head....	Erection of a fog-alarm building. Expenses incurred on account of inspection and installation.	Contract	Denton & Condon, Digby	3,300 00 269 53
Brier Island	Illuminating apparatus improved by substituting a 3rd order quadruple flashing optic for the catoptric revolving apparatus. Lantern raised and repairs to tower.	Day labour.....	J. L. Coulter.....	2,312 35
	Repairs to dwelling and construction of a shed.	Day labour..	E. Ellis....	
Burntcoat	Construction of a wooden lighthouse tower.....	Contract.....	O. J. O'Brien, Noel, N.S.	3,680 00
	Inspection and incidental expenses.....			200 88

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NOVA SCOTIA—Continued.

CHANGES AND IMPROVEMENTS—Continued.

Lightstation.	Nature of the work.	How performed.	Contractor or foreman.	Expenditure during fiscal year.
				\$ cts.
Chebucto Head.	Illuminating apparatus improved by the installation of a quadruple flash long focus reflector.	Day labour...	E. J. Geizer	1,940 26
	Installation of class "D" diaphone plant, and type "R" diaphone replacing steam whistle.	Day labour	E. J. Geizer	510 31
Coffin Island....	Construction of an oil shed.	Day labour	A. Wentzell	
Devil Island....	Illuminating apparatus improved by substituting a 4th order dioptric lens in lieu of the catoptric apparatus. Work started last year.	Day labour.....	T. H. Phillips	12 48
Digby Pier.....	Illuminating apparatus improved by the installation of a 5th order dioptric lens. Work started last year	Day labour	W. Merson	17 80
Doctors Island, Eastern points	Increasing size of day beacons. Expenses re purchase of site..			107 35
Freels Cape.....	Construction of an air pipe and dam	Day labour	M. Myrick.....	590 97
George Island...	Illuminating apparatus improved by substituting a 4th order occulting dioptric lens, red light, in lieu of revolving catoptric apparatus.	"	T. H. Phillips.....	19 83
Green Island. (Cape Breton island).....	Illuminating apparatus improved by the installation of a double flash long focus reflector	"	F. L. Fultz.....	55 04
Halifax Light-ship	Construction of new lightship... Inspection, travelling and other expenses.	Contract.. ...	Row, McLachlan & Co., Paisley, Scotland.....	112,894 49 6,412 05
Jeddore Rock...	Illuminating apparatus improved by substituting a 4th order dioptric lens in lieu of catoptric apparatus.	Day labour	J. L. Colter.....	26 15
Mabou.....	Repairs to foundation of back range lighthouse.....	"	N. McPhee.....	232 67 125 14
Man-o-war.	Expenses re purchase of site....			
Mauger Beach...	Expenses in connection with the erection of double dwelling and boat-house. Work started last year			2,178 50
North Canso....	Illuminating apparatus improved by substituting a single flash long focus reflector with 35 mm. burner, in lieu of a fixed catoptric apparatus.	Day labour	F. L. Fultz.....	28 80
Parrsboro.....	Repairs to cribwork.	"	W. H. McCurdy.....	400 98
Peases Island...	Illuminating apparatus improved by the installation of a quadruple flash long focus reflector	"	E. J. Geizer	79 65
Point Prim...	Illuminating apparatus improved by the installation of a single flash long focus reflector, with 55 mm. burner...	"		69 00
Portapique.	Construction of a wooden light-house tower.....	Contract.. ...	W. A. Lambard & A. Sharitt, Montrose....	925 00 38 00
	Inspection and incidental expenses			

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NOVA SCOTIA—*Concluded.*CHANGES AND IMPROVEMENTS IN EXISTING AIDS—*Concluded.*

Lightstation.	Nature of the work.	How performed.	Contractor or foreman.	Expenditure during fiscal year.
				\$ cts.
Pugwash	Cribwork protection around lighthouse.....	Day labour	C. E. Woodlock	530 33
Scatarie.....	Erection of lantern and alterations to tower, and illuminating apparatus improved by the installation of a 2nd order triple flash optic with 55 mm. burner. (Will be completed 1914-15).....	"	E. J. Geizer.....	67 23
Seal Island	Installation of duplicate boiler...	"	T. H. Phillips	647 94
Sheet Rock.....	Illuminating apparatus improved by substituting a fourth order dioptric lens for catoptric apparatus.....	"	F. L. Fultz.....	19 40
Wedge Island...	Extension to cribwork.....	"	E. Burns.....	1,214 90
West Ironbound	Illuminating apparatus improved by the installation of quadruple flash long focus reflector with 35 m.m. burner.....	"	F. L. Fultz.....	5 48
Whitehead	Construction of fog-alarm building, dwelling, oil store and small bridge.	Contract.....	Freeman & Giffin, Isaac's Harbour, N.S.....	6,945 00
	Inspection, installation of class 'D' diaphone plant and type 'E' diaphone, and incidental expenses.....			1,268 46
Miscellaneous Expenses.....	Materials, &c., in connection with the establishment of buoys, beacons, submarine bells, &c.			19,781 33
	Travelling expenses of officials, telegrams, salaries of foremen, &c.....			11,677 92
	Total expenditure for Nova Scotia.....			188,918 75

NEW BRUNSWICK.

NEW AIDS TO NAVIGATION.

Bay of Fundy...	Erection of spindles at Sandy point and Tinker ledge.....	Day labour.....	G. N. Breen.....	74 67
Bayswater.....	Erection of a wooden light-house tower and installation of fog bell and 5th order dioptric lens. Inspection and incidental expenses.....	Contract.....	B. R. Palmer, Tennant's Cove. (Contract price \$825.00).....	883 25
Chamcook.....	Erection of a 27-foot wooden light-house tower and installation of a 4th order dioptric lens.	Day labour.....	C. N. Breen, D. J. Gallagher.....	1,341 04
Chockfish	Erection of a pole light with hoisting apparatus and shed..	"	I. Robichaud.....	132 69
Grande Anse ...	Erection of a wooden light-house tower and installation of a 6th order dioptric lens. Will be completed 1914-15. Inspection and incidental expenses. . . .	Contract.....	The Geo. Eddy Co., Bathurst, N.B. (Contract price \$800).	857 78

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NEW BRUNSWICK—Continued.

NEW AIDS TO NAVIGATION—Con.

Lightstation.	Nature of the work.	How performed.	Contractor or foreman.	Expenditure during fiscal year.
				\$ cts.
Leonardville....	Erection of a wooden lighthouse tower and installation of a 6th order dioptric lens.....	Contract.....	A. L. Mury, West Arch- ichat, Contract price	1,109 69
McColgan Point.	Erection of a wooden lighthouse tower and installation of a 6th order dioptric lens.....	"	B. R. Palmer.....	700 00
	Inspection and incidental expenses.....			51 05
St. John.....	Construction of a pile and concrete wharf and dredging, will be completed 1914-1915.	Contract.....	F. L. Boone.....	113,650 66
	Inspection and incidental expenses			3,145 67
Shampier Wharf	Erection of a wooden lighthouse tower and installation of a 6th order dioptric lens.....	Contract.....	B. R. Palmer.....	1,049 00
	Inspection and incidental expenses.....			42 76
Shippigan	Provision and erection of a wharf lantern	Day labour.....	Geo. Breen.....	116 97
Splitting Knife Ledge.....	Erection of an iron spindle.	"	"	58 69

CHANGES AND IMPROVEMENTS IN EXISTING AIDS.

Barn Island.....	Reconstruction of spindle.....	Day labour.....	G. N. Breen.....	89 24
Caraquet.....	Provision and erection of a wharf light	"	"	128 38
Casco Bay.....	Erection of spindle.....	"	"	306 47
Cocagne	Expenses <i>re</i> purchase of site.....			132 25
Cox Point.....	Expenses <i>re</i> purchase of site.....			150 00
Gannet Rock....	Extensive repairs and improvements.....	Day labour.....	J. Henderson.. ..	10,622 60
	Installation of an electric lighting plant.....	"	F. J. Lewis.....	89 40
Half Tide Rock.	Repairs to spindle.....			140 00
Hendry Point..	Expenses <i>re</i> purchase of site.....			
Jourimain Cape.	Illuminating apparatus improved by the installation of a 4th order dioptric lens.....	Day labour.....	D. J. Gallagher.....	
Lepreau Point..	Installation of an electric lighting plant.....	"	F. Frauley.....	191 11
Long Eddy Point	Installation of an electric lighting plant.....	"	Lightkeeper	166 94
Lords Cove.....	Construction of wooden cribwork and erection of iron spindle....	"	G. N. Breen, ...	246 74
Lurcher Shoal Lightship.....	Repairs.....	Contract.....	C. R. Reid.....	655 00
Machias Seal Island.....	Extension improvements.....	Day labour....	J. Henderson, Engineer in charge.....	6,745 87
	Demolishing old buildings, alteration to fog-alarm building and substitution of class "E" duplicate plant with type "G" diaphone in lieu of steam fog-whistle previously maintained.			
	Provision of fog-alarm machinery	Furnished under general contract.....	Canadian Fog Signal Co., Toronto	9,463 16

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NEW BRUNSWICK—*Concluded.*CHANGES AND IMPROVEMENTS IN EXISTING AIDS—*Concluded.*

Lightstation.	Nature of the work.	How performed.	Contractor or foreman.	Expenditure during fiscal year.
				\$ cts.
Musquash	Expenses <i>re</i> purchase of site			45 00
Outhouse Point.	" " "			42 29
Partridge Island	Installation of an electric lighting plant	Day labour.....	F. Lewis.....	1,486 99
St. John Harbour	Capacity of reservoir increased..	"	F. Nice.....	
	Provision of a steel skeleton tower for lighthouse, (Will be completed 1914-15).	Contract	New Burrell-Johnson Iron Co., Yarmouth...	1,200 00
	Incidental expenses preparatory to erection, etc.			8 67
Spencer Cape...	Installation of an electric lighting plant	Day labour.....	F. J. Lewis.....	186 97
Swallowtail.....	Erection of fog-bell and construction of building. Will be completed next year, 1914-15..	"	G. N. Breen.....	79 33
Tongue Shoal...	Repairs to concrete wall.....	"	G. N. Breen.....	26 70
Miscellaneous Expenses.....	Materials, etc., in connection with the establishment of buoys, beacons, spindles, etc.			16,847 10
	Travelling expenses of local officers, salaries of erectors, telegrams, etc.			4,476 98
	Total expenditure for New Brunswick.....			177,038 72

PRINCE EDWARD ISLAND.

NEW AIDS TO NAVIGATION.

Belle River.....	Erection of a wooden skeleton tower and installation of a 6th order dioptric lens. Work started last year.	Day labour.....	G. L. Gaudin.....	25 99
Shipwreck Point	Erection of a combined wooden dwelling and lighthouse and the installation of a 4th order dioptric lens.	Contract	The Annandale Lumber Co., Annandale.....	3,213 81
	Inspection and incidental expenses.			255 30
Fish Island.....	Construction of a board fence as protection from erosion.....	Day labour.....	G. L. Gaudin.....	69 62
Indian Point....	Repairs to lighthouse.....	"	F. W. Peters.....	182 95
Summerside	Purchase of site and moving back light	"	G. L. Gaudin.....	587 37
Miscellaneous Expenses.....	Travelling and incidental expenses.			2,826 53
	Total expenditure for Prince Edward Island.....			7,186 57

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QUEBEC.

NEW AIDS TO NAVIGATION.

Lightstation.	Nature of the work.	How performed.	Contractor or foreman.	Expenditure during fiscal year.
				\$ cts.
St. Louis Isle...	Erection of a steel skeleton tower and installation of gas plant...	Day labour.....	F. E. Cote.....	687 49
St. Marys Isle...	Completion of work of constructing concrete tower dwelling and installation of a 4th order dioptric lens.....	"	F. E. Cote.....	459 00
Seven Islands...	Erection of a pole with hoisting gear for Chance anchor lens lantern.....	"	D. Bilodeau.....	109 86
Trinity Bay....	Erection of a steel skeleton tower and installation of gas plant...	"	F. G. Cote.....	600 99
Coacoachoo Isd.	Erection of beacon.....	"		67 50
Ferolle Point...	Completion of the construction of concrete tower; installation of fog-alarm machinery and illuminating apparatus consisting of a 3rd order dioptric lens	Day labour.....	{ F. E. Cote..... } { E. Lavergue..... }	6,498 35
Flat Island.....	Completion of the construction of concrete tower; outbuildings, and the installation of a 4th order dioptric lens.....	"	{ D. Bilodeau..... } { F. Parent..... }	308 40
Lampson Cove...	Lantern to mark cribs, and incidental expenses.....	"	Transcontinental Ry....	20 45
Méchins Wharf.	Erection of mast with hoisting gear for Chance anchor lantern with shed at base. Will be completed, 1914-15.....	Day labour.....		12 08
Natashkwan....	The construction of concrete tower, dwelling, oil store, boat-house, and installation of a triple flash 4th order lens. Will be completed next season	"	C. Carboneau.....	5,415 62
Passe Pierre Islets.....	Erection of a steel skeleton tower and installation of gas plant...	"	F. E. Cote.....	567 62
Rivière du Moulin.....	Purchase of lighthouse sites.....			138 01
Ste. Félicité...	Installation of diaphone.....	Day labour.....	E. Poitras.....	36 40

CHANGES AND IMPROVEMENTS IN EXISTING AIDS.

Amherst..	Search <i>re</i> site.....			1 80
Algernon Rock..	Repairs to concrete lining around pier of back light	Day labour.....	G. Fortin.....	26 70
Anguille Cape ..	Repairs to dwelling, and improvement to drainage will be completed next year, 1914-1915.	"	Lightkeeper	898 73
Arctic.....	Fitted up as lightship to be used at Lower Traverse.....	"	J. Hamel	6,008 58
Barachois de Malbaie	Moving oil shed and erecting new mast.....	Contract.....	T. Maloney	45 00
Belle Isle, N.E.	Repairs to concrete wharf	Day labour	D. Bilodeau	172 20
Belle Isle, S.W.	Repairs to dwelling, etc.....	"	D. Bilodeau	5,109 28
Brandy Pots	Registration of plan of site	"		1 30
Cloridorme.....	Removing light-tower location.....	"		15 80
Cape d'Espoir...	Illuminating apparatus improved by installation of a quadruple flash long-focus reflector with 35-inch burner	Day labour.....		12,440 47
	Erection of a fog-alarm, building, dwelling, oil store. Inspection and incidental expenses			

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QUEBEC—Concluded.

CHANGES AND IMPROVEMENTS IN EXISTING AIDS—Concluded

Lightstation.	Nature of the work.	How performed.	Contractor or foreman.	Expenditure during fiscal year.
				\$ cts.
Cape d'Espoir...	Installation of class D duplicate diaphone plant and type F diaphone	Day labour	J. Montgomery	46 12
Etang du Nord..	Repairs to dwelling	"	Lightkeeper	268 50
Father Point...	Moving gate and old oil shed.	Day labour	Lighthouse-keeper	316 01
Grand Entry....	Construction of line fence.	"	A. Turbide	227 74
Green Island...	Protection work for backlight pier	"	R. L. Kelso	994 58
Kamouraska....	Illuminating apparatus improved by the installation of a 4th order catadioptric lens.	Contract	Lachance & Fils, Fraser-ville, \$875 balance of contract.	63 60
Nicolet	Construction of a dwelling and two sheds, work started last year.	Day labour	E. Poitras	369 08
Cape Norman...	Deed of sale of light house site.	"	P. Gagnon	150 00
Perroquet Island	Repairs to fog-alarms, etc.	Day labour		278 58
Pointe d'Amour.	Legal expenses re site.	"		1,160 45
Pointe à Basile Range	Steam fog-alarm plant replaced by an oil plant, and provision of six compressors. Engines will be completed 1914-15.	Day labour		87 23
Pointe aux Trembles	Illuminating apparatus improved by installing of reflectors and 35-inch. burners. Will be completed 1914-15.	"	F. Parent	309 94
Portneuf-en-bas.	Illuminating apparatus improved by the installation of a long-focus reflector	"	E. Tremblay	691 19
S.W. Point, Anticosti.....	Lantern lined by tin	"	P. Poulin	7,647 62
Stone Pillar	Placing battens as a day mark on two sides of tower	"		30,661 68
Upper Traverse Pier....	Illuminating apparatus improved by the installation of a single-flash, long focus reflector with 55-inch burner; will be completed 1914-1915.	"		93,423 21
Miscellaneous expenses.....	Construction of oil shed. Repairs to lighthouse	"		
	Repairs	"		
	Materials, etc., in connection with the establishment of buoys, beacons, submarine bells, etc. Expenses incurred by the workshops, including wages, material, power, etc., the salaries of erectors, wages and travelling expenses of local officers, telegrams, and general upkeep of agency.			
	Total expenditure for Quebec...			

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MONTREAL DISTRICT.

NEW AIDS TO NAVIGATION.

Lightstation.	Nature of the work.	How performed.	Contractor or foreman.	Expenditure during fiscal year.
				\$ cts.
Beloeil Bridge ..	Erection of a pole with gear for hoisting a pressed lens lantern, with shed at base	Day labour . . .	P. Beauchemin	44 70
Bouchard Peninsula.....	Erection of steel skeleton towers as a range, and the installation of catoptric illuminating apparatus	"	J. D. Weir, superintendent	2,295 18
Lebel.....	Erection of steel skeleton towers as a range, and the installation of catoptric illuminating apparatus	"		1,858 56
Mousseau.....	Erection of steel skeleton towers as a range, and the installation of catoptric illuminating apparatus	"		1,577 30
St. Sulpice Course	Erection of a wooden tower for the front light and a steel skeleton tower for the back light, and the installation of catoptric illuminating apparatus	"		1,048 82
St. Sulpice Transverse.....	Erection of a wooden tower for the front light and a steel skeleton tower for the back light, and the installation of catoptric illuminating apparatus			1,097 87
St. Denis.....	Construction and placing a light float	Day labour.....	P. Beauchemin	79 71
St. Roch.....	Erection of two lighted beacons with slatted day marks, and installation of reflector lanterns.	"	P. Beauchemin.....	235 11

CHANGES AND IMPROVEMENTS TO EXISTING AIDS.

Crab Island.....	Expenditure in connection with purchase of sites.			60 56
Grondines	Steel tower closed in by boards, removal of lantern and installation of apparatus	Day labour.....	P. Mandeville.....	377 44
Isle Ronde	Sheathing living room	"	C. J. Hartley.....	106 24
Isle St. Thérèse.	Purchase of site			184 60
Lachine	Repairs to lighthouse and pier..	Day labour.....	T. Weir.....	249 43
L'Original Wharf	Installation of an electric light on the wharf.	"	T. Weir	35 39
Petite Isle Course	Installation of two Piper head-light lanterns			
Pointe à la Meule	Re-erection of wooden front light tower and the erection of a 3-section steel skeleton tower, and the installation of catoptric illuminating apparatus work started last year.	Day labour.....	P. Beauchemin.....	1,942 22
Pointe au Chêne	L'Original lighthouse moved to Pointe au Chêne, and the installation of a 6-inch order dioptric lens	"	P. Beauchemin.....	976 49
Pointe du Lac ..	Front lighthouse foundation pier raised.....	"	P. Beauchemin.....	295 15-

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MONTREAL DISTRICT—*Concluded.*CHANGES AND IMPROVEMENTS TO EXISTING AIDS. —*Concluded.*

Lightstation.	Nature of the Work.	How Performed.	Contractor or Foreman.	Expenditure during Fiscal Year.
				\$ cts.
Port St. Francis	Repairs to foundation of light-house	Day labour.....	P. Beauchemin.....	53 00
Repentigny.....	Moving range lights to new sites and purchase of sites.....	"	J. D. Weir.....	1,101 59
Richelieu River.	Providing concrete basis for 21 pole lights.....	.....	J. D. Weir, supervisor. .	1,420 99
Ste. Anne de Sorel.....	Purchase of site and legal expenses.....	.....	.....	157 50
St. Ours Locks	Purchase of site.....	.....	.....	35 50
Traverse.....	Purchase of sites.....	.....	.....	121 00
St. Francis river.	" .....	.....	.....	19 30
Way shoal.....	" .....	.....	.....	
Steamers, scows, etc., used on construction work.....	Repairs, fittings to boats, pay and board of crews of the following craft: <i>Hosanna, Adelaar, Alpha, Lenore, Napoleon, Quebec and Sarah</i> .....	.....	.....	14,005 09
Miscellaneous Expenses.....	Materials, etc., in connection with the establishment of buoys and beacons.....	.....	.....	9,954 09
	Travelling expenses of officers, wages, salaries of temporary help, and general upkeep of agency.....	.....	.....	13,195 36
	Total expenditure in Montreal agency .....	.....	.....	52,528 19

ONTARIO—INCLUDING NORTHWEST PROVINCES.

NEW AIDS TO NAVIGATION.

Devil's Gap.....	Expenses in connection with site .....	.....	.....	15 00
McNicol.....	Erection of a 27-foot wooden lighthouse tower for the front light and construction of a concrete base for back tower ..	Contractor.....	J. Erven, Midland	1,800 00
	Inspection and incidental expenses.	.....	.....	
	Erection of a 2-section steel skeleton tower for back light and the installation of catoptric apparatus for back light.	.....	.....	
	Work started last year. . . .	Day labour.....	T. H. Brewer	1,314 54
Main Duck Island.....	Erection of a 70-foot concrete tower, double dwelling, out-buildings, boathouses, oilshed, wharf and boat landing. . . .	Contract.....	A. T. G. McMaster, Toronto, contract price \$1,700	5,315 27
	Will be completed 1914-1915. Inspection and incidental expenses.	.....	.....	
Mission Channel.	Erection of range poles with slatted day marks attached, carrying electric catoptric apparatus.	Day labour.....	M. J. Egan.....	637 22

ONTARIO—Continued.

NEW AIDS TO NAVIGATION.—Continued.

Lightstation.	Nature of the Work.	How Performed.	Contractor or Foreman.	Expenditure during Fiscal Year.
				\$ cts.
New Channel, Red River....	Erection of a 27-foot wooden lighthouse tower on pile foundation, and a 2-section steel skeleton tower on pile foundation; also small dwelling and installation of a 4-inch order dioptric lens for the front light, and a catoptric apparatus for the back light.....	Day labour.....	M. J. Egan.....	3,091 29
Port Burwell....	Construction of a concrete beacon; will be completed 1914-15.	Day labour.....	G. W. Perkins.....	1,380 01
Port Stanley....	Installation of a 1-inch diaphone operated by electricity.....	Day labour.....	H. V. Anderson, engineer in charge.....	1,683 79
Skelton Island..	Erection of a steel skeleton tower with self-generating gas plant.....	".....	J. J. Lindsay.....	
Southeast Bend.	Erection of five pole lights supported on pile foundations, and installation of self-generating gas plant.....	".....	M. J. Egan.....	3,357 69
Amherstburg....	Repairs to wharf at depot.....	".....	M. J. Egan.....	147 11
Battle Island....	Provision of oil tanks for projected fog-alarm, and registration fees in connection with site.....	Contract.....		278 05
Cove Island....	Construction of landing wharf..	".....	W. J. Simpson.....	697 47
Cobourg.....	Repairs to fog-alarm plant.....			11 56
Deep River.....	Erection of a 27-foot wooden lighthouse tower, and the installation of a 6-inch order dioptric lens.....	Contract.....	C. L. McCool, Fort William.....	525 27
Gargantua....	Provision of materials for repairs to lighthouse.....			41 03
Gibraltar Point.	Erection of an oil shed.....	Day labour.....	T. H. Brewer.....	132 40
Goderich.....	Protection work for back range tower.....	Contract.....	B. C. Cummings, Goderich	107 00
	Tower raised, repairs, and the installation of new lantern and a double-flash long-focus reflector for main light. Will be completed next year.....	Day labour.....	{ M. J. Egan..... } { J. Haggarty..... }	799 80
	Provision and installation of a Piper headlight lantern for front range light.....	".....	W. Robinson.....	
Gore Bay.....	Repairs to keeper's dwelling....	".....	T. H. Brewer.....	858 53
Great Duck Island.....	Erection of a new boat-house and slip.....	".....	T. H. Brewer.....	873 26
Jackstraw Shoal	Repairs to lighthouse cribwork foundation; will be completed 1914-15.....	".....	J. J. Lindsay.....	60 00
Jones Islands....	Registration fees <i>re</i> site.....			3 06
Limekiln Crossing.....	Reconstruction of front tower....	Day labour.....	M. J. Egan.....	95 68
Lionhead.....	Erection of a wooden lighthouse tower, and the installation of a 5-inch order lens.....	Contract.....	J. C. Kennedy, Owen Sound, \$825.22.....	966 22

SESSIONAL PAPER No. 21

ONTARIO—Continued.

NEW AIDS TO NAVIGATION.—Continued.

Lightstation.	Nature of the Work.	How Performed.	Contractor or Foreman.	Expenditure during Fiscal Year.
				\$ cts.
Lionhead.	Inspection and incidental expenses.....			
	Salvaging lighthouse	Contract.....	J. H. Tyndall, \$50	
	Erection of a stanchion for life line, and provision of a fender for wharf	Day labour.....	Lightkeeper	
Little Current..	Erection and provision of a higher pole for the back range light	"	"	8 83
Michipicoten Island	Repairs to lighthouse.....	"	M. J. Egan	271 79
Midland Point..	Erection of a 43-foot wooden lighthouse tower for the back light, and removal of the wooden lighthouse tower of the backlight of the old range and used as the front light of the new range; also the installation of the apparatus taken from the old range.....	"	T. H. Brewer.....	2,388 22
Morris Island..	Erection of a shelter shed.....	Contract.....	Charles Simpson	125 00
Nine Mile Point	Illuminating apparatus improved by the installation of triple-flash long-focus radiator ..	Day labour....	J. Montgomery.....	162 91
Parry Sound Agency	Double sheeting carpenter shop. Installation of electric lighting system	"	J. Fitzpatrick.....	137 60
	Provision of office room for foreman ..	"	"	
Penetanguishene	Buoying of inner channel. ..	"	C. G. S. Lambton.....	199 52
Pie Island.....	Erection of boathouse.....	"	M. J. Egan.....	236 04
Port Dalhousie..	Repairs to foundation of engine bed	"	J. Montgomery.....	1,327 36
	Protection work and erection of oil shed	"	W. Langstaff	
Port Elgin.....	Repairs to cribwork and construction of walk.....	Day labour....	R. N. Lowry.....	24 45
Prescott.....	Rearrangement of the lighthouse depot, consisting of overhauling and repairing main building, tearing down and removal of various old buildings on the site, general overhaul of the machinery, electric lighting and sprinkling system, building of oil store, establishment of tramway, telephone system, repairs to wharf, construction of fences and gates, installation of a travelling crane, etc.	"	F. P. Jennings, supervisor.....	87,829 68
	Material purchased for stock to be transferred and charged to the several lightstations, the pay of staff and up-keep of depot.....	"	"	52,549 56
Presqu'île.....	Repairs to cribwork.....	"	M. J. Egan.....	184 53
Rainy River....	Protection work at front light...	"	J. Nash, supervisor	420 00

ONTARIO—*Concluded.*NEW AIDS TO NAVIGATION — *Continued.*

Light Station.	Nature of the Work.	How Performed.	Contractor or Foreman.	Expenditure during Fiscal Year.
				\$ cts.
Red Horse Rock	Erection of a new dwelling. Completed 1914-15.....	Day labour.....	J. J. Lindsay.....	8 00
Red Rock	Wooden windows replaced by iron windows and shutters, repairs to roof, &c.	"	B. Dungan.....	364 68
Sault Ste. Marie	Purchase of sites, &c.	"	"	303 20
Selkirk, Man...	Electric lighting of wharf with five lights and erection of poles and wires	Contract.....	Willson Lighting Co., Winnipeg.....	679 00
Slate Islands...	Provision of a class C diaphone plant and type F diaphone. Will be installed next year. Purchase of oil tanks and incidental expenses.....	Furnished under general contract.....	Can. Fog Signal Co., Toronto.....	4,889 53 1 40
Scotch Bonnet..	Registration of deed of site.....	"	"	"
Southeast Shoal Lightship.....	Installation of electric lighting system	Contract.....	Detroit Shipbuilding Co., Detroit	966 39
Stag Island.....	Repairs to pier	Day labour.....	M. J. Egan.....	55 45
Stokes Bay.....	Construction of a boat-house	"	T. H. Brewer.....	321 48
Thunder Cape..	Illuminating apparatus improved by the installation of a single-flash long-focus reflector....	"	M. J. Egan	3,191 14
	Erection of a concrete smoke-stack	} Day labour.....	"	3,191 14
	Construction of a boathouse and skidway			
Wilson Channel.	Moving back range tower a few feet westward.....	Day labour.....	M. J. Egan.....	273 61
	Erection of small dwelling ...	Contract..	G. Langstaff.	300 00
Miscellaneous expenses	Materials, &c., in connection with the establishment of buoys and beacons.	"	"	"
	Travelling expenses of officers, salaries and expenses of temporary help, erectors, &c.....	"	"	9,163 25
	Total expenses in Ontario	"	"	196,092 42

BRITISH COLUMBIA.

CHANGES AND IMPROVEMENTS IN EXISTING AIDS.

Addenbrooke...	Erection of a combined light-house and dwelling, boat-house, oil shed and the installation of a 4-in. order dioptric lens.....	Day labour.....	D. McLean.....	6,446 44
Aiskin Island...	Erection of acetylene beacon on concrete base.....	"	Crew of C.G.S. Quadra..	29 24
Greene Point...	Erection of acetylene beacon on concrete base.....	"	"	347 75
Langara.....	Completion of the erection of a 30-foot concrete tower, dwelling, building, &c.....	"	D. McLean.....	11,019 05

SESSIONAL PAPER No. 21

BRITISH COLUMBIA—Continued.

CHANGES AND IMPROVEMENTS IN EXISTING AIDS—Continued.

Lightstation.	Nature of the Work.	How Performed.	Contractor or Foreman.	Expenditure during Fiscal Year.
				\$ cts.
Masset.. . . .	Erection of a 27-ft. wooden light-house tower for the front light, and 62-ft. steel skeleton tower for back light, and the installation of a catoptric apparatus for the front light and a 4-inch order dioptric lens for the back	Day labour.....	L. Cullison	2,619 36
Pillsbury Point.	Erection of a wooden frame work tower and installation of fog-bell.	"	H. L. Hulbers	263 13
Rose Spit.....	Erection of an unwatched acetylene beacon on concrete foundation	"	Crew of C.G.S. Quadra..	319 17
St. James Cape.	Erection of a 44-foot reinforced concrete tower, wooden dwelling, oil store, boat-house, and installation of 3rd order dioptric lens.	Day labour.....	R. Chrystal.	18,114 08
Triple Island. .	Erection of acetylene beacon on concrete base	"	Crew of C. G. S. Quadra.	45 92
Victoria.....	Expenses incurred in the acquisition of site for new marine depot, and preliminary work in connection with the construction of same			842 05
Ballenas.....	Changes made in apparatus.	Day labour.....	L. Cullison.....	64 76
Beale Cape.....	Erection of a wooden double dwelling.	Contract.....	J. Charlesworth.....	7,033 30
Discovery Island	Erection of a wooden fog-alarm building.	Contract.....	W. H. Rourke.....	2,950 00
	Inspection and incidental expenses.			1,024 53
	Provision and installation of a class 'D' duplicate plant and type 'F' diaphone.	Day labour; machinery ordered under general contract.		
Estevan.....	Construction of boat-house and boatway.	Day labour.....	H. T. Peter, Canadian Fog Co., Toronto.	6,600 00
False Creek.....	Erection of a concrete electric-lighted beacon	Contract.. . . .	Lightkeeper.. . . .	289 87
	Inspection and incidental expenses.		W. H. Rourke.....	1,600 00
First Narrows .	Erection of a wooden combined lighthouse and fog-alarm building on concrete foundation	Contract.. . . .		141 42
	Inspection and incidental expenses.		J. W. Scott.	4,987 00
	Illuminant improved by the installation of a 5th order dioptric lens.	Day labour.....		
	Fog-bell replaced by a small diaphone plant.		H. T. Peter.....	1,727 47
Fraser River Lightship.....	Installation of a submarine bell apparatus, etc. Provision of submarine apparatus.		H. T. Peter.....	1,690 89
			Submarine Signal Co., Boston.	
Lucy Island....	Land cleared of trees.	Day labour.. . .	Lightkeeper.....	1,500 00
Middle Ground..	Rebuilding beacon and driving five coppered poles.	Contract.....		987 90
			G. Sage & Son.....	600 00

5 GEORGE V., A. 1915

BRITISH COLUMBIA—*Concluded.*CHANGES AND IMPROVEMENTS IN EXISTING AIDS—*Continued.*

Lightstation.	Nature of the Work.	How Performed.	Contractor or Foreman.	Expenditure during Fiscal Year.
				\$ cts.
Mudge Cape....	Construction of a fence, repairs to concrete cellar floor, digging a ditch, laying pipes, and other minor work	Day labour.....		361 12
Portlock Point..	Expenses <i>re</i> purchase of site....			935 57
Prince Rupert..	Erection of rigging for handling of coal	Day labour.....	A. H. Johnson.....	7,013 92
	Enlarging dam.....	"	H. L. Hulbert.....	
	Repairs and improvements to depot.....	"	A. L. Johnson.....	
	Overhauling launch	"		
	Installation and purchase of machinery and small repairs..	"		
Prospect Point..	Repairs and improvements to boat landing.....	Contract.....	J. W. Scott.....	598 00
	Inspection and incidental expenses.....			30 95
Sisters.....	Illuminating apparatus improved by the installation of a 4th order lens.....	Day labour.....	L. Cullison.....	420 48
Miscellaneous Expenses.....	Materials, etc., in connection with the establishment of buoys, beacons, and submarine bells.....			
	Salaries of foremen, travelling expenses of local officers, etc..			16,442 94
	Total expenditure in British Columbia.....			124,008 18

HEADQUARTERS.

Miscellaneous Expenses.....	Including travelling expenses of officers, blue print work, unforeseen expenses, photographic work, etc.....		\$ 10,981 55
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RECAPITULATION BY PROVINCES.

	\$ cts.
Nova Scotia.....	188,918 75
New Brunswick.....	177,038 72
Prince Edward Island.....	7,186 57
Quebec District	93,423 21
Montreal District.....	52,528 19
Ontario and Northwest.....	196,092 42
British Columbia.....	124,008 18
Headquarters.....	10,981 55
Grand Total Expended.....	850,177 59

WM. P. ANDERSON, M. Inst. C.E.,

Chief Engineer.

SESSIONAL PAPER No. 21

APPENDIX No. 2.

ANNUAL REPORT OF THE COMMISSIONER OF LIGHTS.

To the Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit the eleventh annual report of this branch. The principal work performed has been an extension of the gas buoy and beacon service throughout the various provinces, together with the maintenance of lights and other aids to navigation throughout the Dominion. The operations of the branch are set forth in tabular form in the following five enclosures, namely:—

Enclosure No. 1.—Statement by provinces, showing the number of lights of the several orders, lightships, lightboats, lightkeepers, fog-alarm stations, warning buoys, and submarine bells, during the fiscal year 1913-14.

Enclosure No. 2.—Statement showing the names of lightstations and lightkeepers, during the fiscal year 1913-14.

Enclosure No. 3.—Statement giving a complete list of stations at which gas buoys were in operation throughout the Dominion during the fiscal year 1913-14.

Enclosure No. 4.—Statement showing new buoys and beacons established during the fiscal year 1913-14.

Enclosure No. 5.—Statement by localities, giving the number of unlighted buoys, stakes and bushes, maintained throughout the Dominion during the fiscal year 1913-14.

In conclusion, I desire to express and record my appreciation of the able assistance rendered by my staff, and the untiring application to duty exhibited by each member. It would not have been possible to carry out the large and increasing amount of work which is devolving upon this branch without the co-operation of all the officers connected with it.

I have the honour to be, sir,

Your obedient servant,

J. G. MACPHAIL,

Commissioner.

OFFICE OF THE COMMISSIONER OF LIGHTS,
DEPARTMENT OF MARINE AND FISHERIES,
OTTAWA, March 31, 1914.

(Enclosure No. 1.)

STATEMENT, by provinces, showing the number of lights of the several orders, lightships, lightboats, lightkeepers, fog-alarms stations, warning buoys, and submarine bells.

	1st order lights.	2nd order lights.	3rd order lights.	4th order lights.	5th order lights.	6th order lights.	7th order lights.	Pressed lens lights.	Catoptric lights.	Electric bulb lights.	Total.	Lightships.	Lightboats.	Lightkeepers.	Fog-alarm stations only.	Diaphones.	Foguns and bombs.	Foghorns and trumpets.	Fogwhistles.	Sirens.	Fogbells.	Hand foghorns.	Hand fogbells.	Gasbuoys.	Whistling buoys.	Bellbuoys.	Submarine bells.	
New Brunswick.....	.....	2	4	14	12	15	64	10	36	1	158	1	1	128	4	9	9	6	2	.....	4	20	.....	26	4	17	2	
Nova Scotia.....	4	4	10	29	21	32	66	25	98	5	294	2	2	272	2	18	1	1	2	4		6	57		36	20	52	4
Prince Edward Island.....	.....	.....	.....	13	2	1	7	4	52	1	80	.....	.....	52	.....	1	1	1	1	.....	.....	2	.....	6	4	3	.....	
Quebec.....	5	7	15	17	7	16	45	22	81	1	216	5	5	164	1	22	7	1	4	1	.....	21	3	54	1	3	5	
Montreal.....	.....	.....	.....	.....	3	3	30	38	136	.....	217	2	2	148	.....	.....	.....	.....	.....	.....	.....	.....	.....	75	.....	.....	.....	
Ontario.....	.....	6	7	39	16	21	121	41	88	2	341	1	1	194	.....	26	.....	1	.....	3	1	6	38	.....	103	4	1	
Manitoba.....	.....	.....	.....	.....	2	.....	4	.....	3	7	18	.....	.....	7	.....	.....	.....	.....	.....	.....	.....	4	.....	.....	.....	.....	.....	
British Columbia.....	5	1	5	2	11	4	67	24	9	6	137	1	1	75	4	22	.....	1	.....	.....	10	8	.....	19	1	3	1	
Total.....	14	20	41	129	74	92	404	164	500	23	1,461	12	1	1,040	11	98	9	12	13	2	26	150	3	319	30	82	13	

Besides the foregoing, the following number of lights are maintained on spar buoys, floats or piles:—

Caribou river, Saguenay river.....	1
Rideau river.....	133
Telegraph narrows, Bay of Quinte.....	6
Detroit river.....	37

SESSIONAL PAPER No. 21

(Enclosure No. 2).

STATEMENT of lightstations and names of lightkeepers, etc., in the Dominion.

NEW BRUNSWICK AGENCY.

Name of Station.	Name of Lightkeeper.	Appointed.	Salary.
			\$ cts.
*Anderson Hollow breakwater.....	J. E. Moore	Jan. 16, 1911..	150 00
Bathurst range	G. C. Sutherland.....	Mar. 20, 1882..	320 00
Barnes point.....	C. W. Barnes.....	Aug. 16, 1911..	160 00
Bayswater.....	F. E. Currie.....	Dec. 31, 1913..	120 00
Belloni point.....	E. H. Egan.....	May 17, 1892..	220 00
Belyea point.....	Mrs. Westfield Day.....	Oct. 19, 1906..	140 00
*Big Shippigan.....	A. T. DeGrace.....	May 12, 1913..	326 00
*Bliss island.....	J. H. McLeod.....	Oct. 17, 1900..	600 00
Bon Ami point.....	Mrs. D. Arseneau (temporary).....	.....	180 00
Bridges point.....	A. B. Bridges.....	Oct. 23, 1911..	130 00
Buctouche bar.....	J. P. Cormier.....	July 26, 1902..	320 00
Buctouche range.....	H. B. Robicheaux.....	June 21, 1884..	260 00
Buctouche inner range.....	D. O. Maillet.....	July 7, 1883..	260 00
Campbellton range.....	P. McLean.....	Dec. 11, 1912..	150 00
Caraget island.....	G. Lantaigne.....	June 16, 1888..	320 00
Caraget range (front).....	J. O. Chaisson.....	May 11, 1912..	105 00
Caraget range (back).....	P. A. Lantaigne.....	Mch. 27, 1913..	100 00
*Cassie point.....	Alfred Gallant.....	Jan. 28, 1914..	320 00
Cedars.....	J. E. Gagnon.....	May 4, 1912..	125 00
Cherry island fog bell.....	H. Chaffey.....	Aug. 7, 1903..	260 00
Chockfish.....	M. C. Caissie.....	April 8, 1913..	80 00
Cocagne range.....	D. Goguen.....	Oct. 14, 1907..	220 00
Cox point.....	A. McBaine.....	May 6, 1898..	140 00
Dalhousie island.....	H. A. McNeill.....	Aug. 17, 1880..	380 00
*Dipper harbour.....	F. Belmore.....	May 12, 1895..	180 00
*Drews head.....	J. M. Eldridge.....	May 2, 1904..	380 00
Duck island, Big, fog alarm.....	R. Burnham.....	June 25, 1906..	880 00
Enrage, Cape, light and fog alarm.....	J. G. Barbour.....	May 11, 1888..	980 00
Escuminac, light and fog alarm.....	K. R. McLennan.....	May 7, 1892..	1,180 00
Fanjoy point.....	W. C. Kennedy.....	Jan. 17, 1912..	125 00
Flewelling landing.....	M. Flewelling.....	April 20, 1890..	140 00
*Folly point.....	A. P. Belliveau.....	June 23, 1905..	320 00
Fox island ranges.....	G. Mills.....	June 23, 1897..	320 00
Gagetown.....	C. Brooks.....	Mar. 20, 1912..	125 00
Gannet rock, light and fog alarm.....	A. Wilson.....	Dec. 3, 1912..	1,260 00
Glenwood.....	E. D. Whelpley.....	May 7, 1912..	85 00
Goose lake.....	C. Brune.....	Jan. 25, 1913..	320 00
*Grand harbour.....	F. J. Martin.....	Aug. 5, 1912..	540 00
Grant beach range.....	W. A. Davidson.....	April 3, 1909..	220 00
Great Salmon river.....	R. Connolly.....	Feb. 26, 1913..	80 00
*Green head.....	T. E. Looney.....	July 1886..	220 00
Greys point.....	B. F. McCutcheon.....	Mar. 6, 1907..	120 00
Grindstone island, light and fog alarm.....	E. C. Peck.....	April 27, 1912..	905 00
Gull cove.....	L. Frankland.....	Nov. 14, 1902..	140 00
Hampstead wharf.....	W. Vanwart.....	Mar. 20, 1912..	125 00
Harper point.....	J. H. Blakeley.....	July 30, 1910..	250 00
Hatfield point.....	O. E. Davis.....	Dec. 24, 1912..	120 00
Hay island range.....	J. Allain.....	May 21, 1895..	260 00
*Head harbour, light and fog alarm.....	C. D. Hilyard.....	May 5, 1907..	1,180 00
Hendry farm.....	A. M. Hendry.....	April 28, 1899..	140 00
Heron island.....	J. A. D. Robertson.....	April 1, 1902..	320 00
Jemseg.....	W. Sharp.....	Oct. 24, 1912..	125 00
Journain.....	A. J. P. Bent.....	Jan. 25, 1901..	440 00
Kouchibouguac ranges.....	H. Gogain.....	June 26, 1908..	260 00
Leonardville.....	Alonzo Conley.....	Dec. 20, 1913..	220 00
Lepreau, light and fog alarm.....	R. L. Belding (lightkeeper).....	June 30, 1905..	480 00
Letite, light and fog alarm.....	F. Frauley (engineer).....	June 30, 1905..	960 00
Little Belledune.....	S. Dines.....	Mar. 27, 1907..	7-0 00
Long Eddy point, fog alarm.....	J. A. Roberty.....	Feb. 21, 1905..	380 00
Long point.....	G. T. Tatton.....	Oct. 16, 1886..	980 00
Machias Seal island, light and fog alarm.....	R. Bates.....	Aug. 19, 1912..	125 00
McColgan point.....	W. L. Harvey.....	July 8, 1904..	1,440 00
	S. McColgan.....	Dec. 30, 1913..	120 00

* \$25 for operating foghorn or bell.

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STATEMENT of lightstations and names of lightkeepers, etc.—*Continued.*NEW BRUNSWICK AGENCY—*Continued.*

Name of Station.	Name of lightkeeper.	Appointed.	Salary.	
			\$	cts.
McFarlane point.....	A. McFarlane.....	Dec. 3, 1909..	120	00
McMann point.....	H. R. McMann.....	Nov. 2, 1901..	140	00
Marks point.....	W. Maloney.....	Nov. 7, 1903..	220	00
Middle island.....	M. Murray.....	April 10, 1902..	320	00
Midjik bluff.....	A. Henderson.....	Oct. 4, 1894..	200	00
Miramichi lightship.....	R. McLean.....	April 12, 1902..	980	00
Miscou gully.....	R. McConnell, Jr.....	Sept. 9, 1897..	180	00
Miscou island, light and fog alarm.....	J. A. Ward.....	Sept. 28, 1912..	905	00
Moncton, Fort.....	G. W. Silliker.....	May 27, 1912..	125	00
Mulholland point.....	A. Parker.....	June 13, 1901..	260	00
Musquash island.....	E. M. Akerley.....	March 4, 1912..	150	00
*Musquash.....	J. S. Galbraith.....	Jan. 28, 1914..	600	00
*Navy Bar.....	J. Kilpatrick.....	Dec. 26, 1906..	600	00
Negro point.....	E. Ross.....	March 5, 1878..	600	00
Neguac range.....	J. Robinson.....	June 15, 1912..	275	00
Neguac, lower range.....	C. McIntosh.....	Dec. 9, 1892..	180	00
Newcastle.....	R. B. Matheson.....	April 18, 1898..	140	00
Oak point, Miramichi, range.....	J. Bowie, Jr.....	June 2, 1906..	180	00
Oak point, St. John.....	Mrs. B. M. Francombe.....	Dec. 20, 1907..	140	00
Oromocto.....	Miss S. J. Brennan.....	Jan. 12, 1910..	180	00
Outhouse point.....	S. Edgett.....	June 14, 1910..	140	00
Palmer landing.....	B. R. Palmer.....	Dec. 22, 1911..	125	00
Partridge island, light and fog alarm.....	J. B. Dey.....	March 3, 1913..	1,200	00
*Pea point.....	G. D. Eldridge.....	Jan. 7, 1913..	335	00
Peck point, light and fog alarm.....	E. Lockhart.....	Aug. 31, 1903..	680	00
Perry point.....	S. T. Lamb.....	Nov. 4, 1911..	130	00
Petit Rocher.....	J. D. Laplante.....	May 16, 1911..	160	00
*Pokemouche.....	M. Hayden.....	Oct. 17, 1888..	380	00
*Pokesudie.....	W. M. Cormier.....	May 24, 1912..	275	00
*Portage island range.....	P. Morrison, Jr.....	May 17, 1892..	380	00
Preston beach range.....	S. Preston.....	July 11, 1889..	220	00
Quaco, light and fog alarm.....	(C. Brown (lightkeeper). (L. B. Bradshaw (engineer)).	Nov. 25, 1884.. Aug. 2, 1887..	490 490	00 00
Reid point.....	W. Lamb.....	Feb. 25, 1909..	140	00
Richibucto bar range.....	C. P. Richard.....	May 24, 1912..	230	00
Richibucto channel range.....	J. Robichaud.....	June 16, 1902..	260	00
Richibucto north beach range.....	F. McNeill.....	May 3, 1909..	270	00
Richibucto head.....	P. F. Richard.....	May 30, 1895..	320	00
Robertson point.....	C. Dean.....	Mar. 20, 1912..	125	00
*St. Andrews.....	W. J. Pendleberry.....	April 10, 1889..	380	00
St. Louis gully range.....	D. L. Maillet.....	May 13, 1912..	150	00
St. Martins.....	W. Calhoun.....	Nov. 13, 1911..	160	00
Sand point.....	J. F. McCloskey.....	May 2, 1913..	120	00
Sapin point.....	D. L. Daigle.....	Aug. 9, 1912..	85	00
Shamper wharf.....	B. Hazen.....	Aug. 25, 1913..	120	00
Shediac harbour range.....	T. Harts.....	Feb. 17, 1905..	140	00
Shediac island range.....	M. Robinson.....	Dec. 29, 1873..	380	00
Shediac north channel range.....	F. Gould.....	Jan. 13, 1899..	140	00
Sheldrake island range.....	J. A. Morrison.....	Jan. 31, 1910..	380	00
Shippigan gully range.....	J. DeGrace.....	June 4, 1899..	260	00
*Southwest head, Grand Manan.....	T. P. Foster.....	Sept. 26, 1910..	660	00
*Southwest Wolf.....	E. Wright.....	Mar. 6, 1906..	680	00
Spencer, Cape, light and fog alarm.....	(J. E. Collins (engineer) (C. McKee (lightkeeper)).	June 23, 1908.. May 24, 1912..	864 504	00 00
Spruce point.....	Mrs. G. B. Hannah.....	Sept. 15, 1892..	220	00
Stonehaven.....	W. Daley.....	July 30, 1913..	140	00
*Swallowtail.....	G. A. Lahey.....	Oct. 29, 1912..	540	00
Swashway range.....	S. Williston.....	June 4, 1902..	380	00
Tiner point, fog alarm.....	A. Splane.....	Oct. 26, 1905..	980	00
*Tongue shoal.....	T. Rooney.....	Dec. 26, 1906..	520	00
Tormentine range, Cape.....	J. Wall.....	June 5, 1912..	190	00
Tracadie North, range.....	F. D. Basque.....	Nov. 22, 1909..	340	00
Tracadie South.....	W. Godin.....	July 14, 1913..	220	00
Vin, baie du, range.....	J. McLeod.....	Oct. 13, 1909..	320	00
Willnot bluff.....	J. H. True.....	Sept. 12, 1899..	140	00

* 25 for operating foghorn or bell.

SESSIONAL PAPER No. 21

STATEMENT of lightstations and names of lightkeepers, etc.—Continued.

NOVA SCOTIA AGENCY.

Name of Station.	Name of Lightkeeper.	Appointed.	Salary.
			\$ cts.
Abbot harbour	W. H. B'Entremont	May 22, 1888.	140 00
Aconi point	J. C. Bonner	Nov. 6, 1903.	320 00
Advocate harbour	R. M. Morris	Sept. 12, 1912.	335 00
Amet island	W. Duncan	July 27, 1912.	540 00
Amherst basin range	W. S. Tait	Jan. 7, 1913.	230 00
Amherst point wharf	W. A. Downey	May 3, 1909.	120 00
Annapolis	T. M. Gavaza	July 14, 1913.	129 00
Apple river, light and fog alarm	H. E. Elderkin	Mar. 31, 1905.	980 00
Argyle	C. A. Amiro	Nov. 9, 1897.	600 00
*Arichat	W. Lavashe	Oct. 17, 1898.	380 00
Arichat, West (front)	M. Gerrior	Feb. 20, 1906.	140 00
Arichat, West (back)	E. Delory	Feb. 20, 1906.	140 00
Arichat, West wharf	C. Forrest	Nov. 8, 1911.	90 00
Arisaig	H. R. McAdam	Nov. 14, 1895.	180 00
Avon river bridges	Windsor Electric Co	June 12, 1906.	210 00
*Baccaro	H. Ross	Feb. 1, 1913.	520 00
Barrington lightship	A. N. Crowell	Jan. 7, 1913.	880 00
*Battery point	I. B. Heckman	Oct. 29, 1912.	395 00
Bass river	D. Vance	Oct. 24, 1907.	140 00
*Bear island	W. J. Malcolm	May 8, 1913.	320 00
Bear river	H. Warren	Jan. 7, 1913.	230 00
Beaver harbour	L. G. Cameron	Feb. 15, 1902.	210 00
Beaver island	T. Sampson	Oct. 13, 1892.	140 00
Beaver island, S.E. coast, light and fog alarm	W. E. O'Leary	Feb. 22, 1900.	1,180 00
Belliveau	J. H. Belliveau	Feb. 16, 1889.	140 00
*Betty island	P. Christian	June 29, 1901.	680 00
*Bickerton Port	T. O'Hara	Jan. 26, 1901.	260 00
Biglow point range	J. L. Peers	Oct. 7, 1912.	150 00
Blackrock	C. Robinson	Mar. 16, 1885.	440 00
Blackrock point	M. D. Morrison	June 8, 1892.	380 00
*Boars head	F. Ruggles	May 24, 1901.	520 00
*Bon portage island	M. M. Nickerson	June 28, 1913.	440 00
Borden wharf	F. R. Clark	April 29, 1904.	180 00
Bourgeois inlet	D. Sampson	April 12, 1912.	105 00
Bras d'Or (front)	R. McLennan	Dec. 11, 1912.	125 00
Bras d'Or (back)	A. Fraser	Jan. 13, 1903.	180 00
Brier island, light and fog alarm	J. N. Peters (lightkeeper)	June 6, 1901.	565 42
	I. B. H. Morrell (engineer)	June 6, 1901.	614 58
Brooklyn pier	H. Godfrey	Mar. 25, 1909.	140 00
Budget	S. E. Burns	Oct. 24, 1912.	275 00
*Bunker island	F. H. Doane	July 27, 1904.	520 00
*Bunker island, N.E.	J. H. Scoville	Jan. 9, 1907.	320 00
Burntcoat	W. Y. Faulkner	June 22, 1898.	380 00
Campbell island	D. A. McDonald	July 23, 1911.	200 00
*Candlebox island	B. Le Blanc	Nov. 1, 1892.	440 00
*Canso harbour	J. Long	Dec. 31, 1896.	440 00
Canso range	W. J. Matthews	Dec. 17, 1904.	320 00
Canso, North	R. McKay	Feb. 4, 1882.	440 00
Caribou	J. A. McFarlane	May 24, 1912.	460 00
*Carter island	R. McDonald	Sept. 28, 1896.	350 00
Caveau point range	N. D. Desveaux	April 27, 1912.	230 00
Charlo harbour range	A. Richar	Dec. 8, 1911.	240 00
Chebueto head, light and fog alarm	R. Holland	Aug. 31, 1906.	1,180 00
*Chester	U. Young	Feb. 15, 1884.	600 00
Cheticamp	D. Desveaux	July 19, 1912.	395 00
Cheticamp harbour range	M. Roach	Aug. 5, 1912.	230 00
Cheverie	H. Macumber	May 27, 1912.	85 00
Church point	J. H. Saulnier	Aug. 8, 1878.	260 00
Ciboux Island	D. Campbell	Oct. 29, 1912.	540 00
Clarke cove range	A. Campbell	Sept. 15, 1910.	170 00
Coffin island	J. E. Wentzell	June 2, 1909.	600 00
Cold Spring head	W. Van Amburg	Oct. 6, 1909.	220 00
Cole harbour range	G. C. Jamieson	Oct. 21, 1898.	260 00

* \$25 for operating fog horn or bell.

5 GEORGE V., A. 1915

STATEMENT of lightstations and names of lightkeepers, etc.—*Continued.*NOVA SCOTIA AGENCY—*Continued.*

Name of Station.	Name of Lightkeeper.	Appointed.	Salary.
			\$ cts.
Cole harbour.....	W. M. Munroe.....	April 23, 1907..	120 00
Country harbour.....	H. Burke.....	June 11, 1902..	600 00
Cranberry island, light and fog alarm.....	J. P. Hanlon.....	Aug. 25, 1905..	1,180 00
Crichton head.....	H. H. Crichton.....	May * 6, 1874..	320 00
Cross island, light and fog alarm.....	C. Whynacht.....	June 20, 1910..	1,130 00
Croucher island.....	G. Croucher.....	Jan. 31, 1883..	440 00
Dartmouth.....	W. Patterson.....	June 3, 1903..	180 00
Derby point.....	D. C. McLean.....	July 19, 1912..	190 00
Devil islands lights.....	W. C. Fulker.....	May 3, 1886..	680 00
Digby pier.....	E. Beamen.....	May 29, 1897..	140 00
Dimnock point, lights.....	Windsor Electric Co.....	June 12, 1906..	130 00
Dog island.....	S. Joyce.....	July 4, 1884..	260 00
Dover.....	E. Moreash.....	Sept. 24, 1906..	320 00
Eastern Points harbour.....	C. E. Mason.....	May 23, 1911..	110 00
Eatonville.....	R. Kirkpatrick.....	June 27, 1913..	80 00
Economy.....	E. McLellan.....	Mar. 8, 1912..	85 00
*Eddy point.....	E. Mundell.....	July 28, 1903..	600 00
*Egg island.....	H. M. Stoddard.....	Mar. 22, 1909..	680 00
Felix, Port.....	W. H. David.....	May 8, 1913..	320 00
Fisherman harbour.....	T. Beiswanger.....	Jan. 19, 1906..	260 00
Flat point, light and fog alarm.....	C. M. Peters (lightkeeper).....	April 13, 1910..	565 42
	D. Campbell (engineer).....	Aug. 12, 1912..	614 58
Flint island, light and fog alarm.....	A. Covey.....	July 4, 1913..	1,260 00
*Fort point.....	J. Misener.....	May 16, 1896..	260 00
Fourchu cape, light and fog alarm.....	T. S. Doane.....	Dec. 31, 1904..	1,180 00
Fourchu head.....	G. Hardy.....	June 16, 1909..	220 00
Freels cape, fog alarm.....	M. Myrick.....	Sept. 26, 1910..	1,130 00
Friar head.....	M. Doucette.....	Nov. 18, 1911..	85 00
Gabarus.....	J. McDonald.....	Dec. 10, 1908..	320 00
George, cape.....	A. L. McEachern.....	Sept. 16, 1898..	680 00
*George island.....	R. Ross.....	Jan. 17, 1885..	380 00
George, port.....	J. C. Anderson.....	Mar. 27, 1912..	150 00
Gilbert point.....	J. W. Melanson.....	Aug. 18, 1904..	300 00
Gillis point.....	H. McLean.....	Dec. 18, 1897..	260 00
Glace bay (front).....	M. McNeill.....	Nov. 19, 1907..	140 00
Glace bay (back).....	A. McFarlane.....	Nov. 19, 1907..	140 00
Glasgow point.....	A. Clory.....	July 25, 1894..	260 00
Grande digue.....	C. A. Kaulback.....	Feb. 12, 1909..	120 00
Grand étang.....	S. LeBlanc.....	Mar. 25, 1905..	120 00
*Grand passage.....	C. Buckman.....	Jan. 7, 1901..	380 00
Granville centre.....	H. Roney.....	Feb. 24, 1904..	140 00
Green island.....	E. F. Boudrot.....	Dec. 3, 1912..	620 00
Green island, Lunenburg.....	M. B. Pearl.....	Aug. 11, 1908..	680 00
Gregory island.....	M. Sampson.....	May 11, 1907..	260 00
Greville, Port, range.....	E. A. Hatfield.....	June 29, 1908..	320 00
Guion island.....	E. Bagnall.....	Dec. 10, 1912..	620 00
*Guysborough harbour.....	G. E. Scott.....	Jan. 12, 1914..	260 00
Hall harbour.....	E. McDonald.....	Aug. 10, 1911..	200 00
Hampton.....	H. Foster.....	Dec. 2, 1911..	200 00
Harbour island.....	A. I. Luddington.....	Feb. 3, 1912..	395 00
Havre bouché, range.....	P. Webb.....	Feb. 18, 1896..	380 00
Haute, Isle.....	P. E. Morris.....	Aug. 2, 1904..	680 00
Hebert, Port.....	W. Burgess.....	July 20, 1892..	260 00
Henry island.....	D. A. McLennan.....	Aug. 3, 1907..	600 00
Herring cove.....	P. V. Hayes.....	April 29, 1912..	150 00
Highland village.....	Noble Chisholm.....	Feb. 23, 1912..	85 00
Hobson island.....	N. Mosher.....	Oct. 19, 1912..	395 00
Hood, Port.....	R. D. McDonald.....	Feb. 17, 1913..	320 00
Horton.....	Mrs. S. M. Rathburn.....	Sept. 3, 1879..	380 00
Hubbard cove.....	O. Shatford.....	July 19, 1912..	335 00
Indian harbour.....	H. Boutlier.....	June 6, 1901..	260 00
Ingonish harbour.....	S. Hawley.....	Aug. 19, 1912..	230 00
Iugonish island.....	R. F. Warren.....	Sept. 17, 1903..	520 00
Ingonish, south harbour.....	J. Young.....	July 24, 1912..	85 00

*\$25 for operating fog horn or bell.

SESSIONAL PAPER No. 21

STATEMENT of lightstations and names of lightkeepers, etc.—*Continued.*NOVA SCOTIA AGENCY—*Continued.*

Name of Station.	Name of Lightkeeper.	Appointed.	Salary.
			\$ cts.
Iona.....	M. D. McNeil.....	Aug. 15, 1913.....	140 00
*Isaac harbour.....	I. L. Giffin.....	April 28, 1894.....	380 00
Jeddore harbour range.....	J. Faulkner.....	Aug. 2, 1913.....	260 00
*Jeddore rock.....	J. W. Mitchell.....	Sept. 29, 1882.....	600 00
*Jerome point.....	J. H. Barron.....	April 4, 1913.....	320 00
*Jerseyman island.....	A. Theriault.....	May 31, 1905.....	440 00
Joggins.....	F. Williams.....	May 13, 1912.....	190 00
Jordan.....	D. Wolfe.....	Nov. 4, 1912.....	150 00
Ketch harbour.....	C. Martin.....	May 19, 1905.....	140 00
Kidston island.....	D. McRae.....	May 17, 1892.....	320 00
*Kingsport.....	J. P. Corkum.....	Feb. 19, 1912.....	150 00
*Lahave.....	W. H. Palmer.....	May 22, 1878.....	320 00
L'Ardoise, Lower, (front).....	E. Burke.....	Mar. 27, 1912.....	85 00
L'Ardoise, Lower, (back).....	A. Birrett.....	Mar. 27, 1912.....	85 00
Lingan head.....	J. Kelly.....	Dec. 2, 1911.....	290 00
*Liscomb.....	W. Redmond.....	Oct. 29, 1912.....	460 00
Little Dyke.....	J. B. Urquhart.....	April 18, 1912.....	85 00
*Little Hope.....	Reuben J. Colp.....	Oct. 30, 1913.....	880 00
Little Lormbec.....	P. Gallant.....	Jan. 19, 1900.....	180 00
Little Narrows.....	M. Matheson.....	Oct. 19, 1912.....	190 00
*Lockeport.....	B. Decker.....	Nov. 27, 1913.....	520 00
Lorne, Port.....	C. B. Beardsley.....	Dec. 3, 1912.....	335 00
Louisburg, light and fog alarm.....	W. Cameron (lightkeeper) D. A. Campbell (engineer).....	Jan. 15, 1913..... May 20, 1902.....	396 95 1,043 15
Louisburg range.....	T. Connigton.....	Oct. 26, 1907.....	320 00
Mabou (front).....	J. B. McDonald.....	Sept. 20, 1912.....	105 00
Mabou (back).....	R. McLean.....	Dec. 7, 1906.....	120 00
McKenzie point.....	H. McRae.....	July 27, 1912.....	230 00
*McMillan point.....	A. McMaster.....	May 24, 1912.....	230 00
McNab island.....	M. Lynch.....	June 23, 1905.....	440 00
McNeill beach.....	L. McNeil.....	Aug. 6, 1884.....	135 00
*Main-a-dieu.....	T. Campbell.....	Aug. 5, 1912.....	395 00
*Maitland, Port.....	A. J. Sallows.....	Dec. 28, 1900.....	260 00
Maitland wharf.....	L. Lawrence.....	Feb. 28, 1911.....	90 00
Man-o'-War point.....	M. N. McLeod.....	Jan. 5, 1912.....	125 00
Margaree.....	A. Y. McLellan.....	Sept. 12, 1912.....	540 00
Margaree harbour (front).....	M. A. Dunn.....	May 12, 1903.....	120 00
Margaree harbour (back).....	R. McLennan.....	June 8, 1901.....	120 00
Margaretville.....	J. Cleveland.....	Jan. 13, 1912.....	275 00
Marjorie island.....	M. McDonald.....	Sept. 22, 1909.....	180 00
*Mary Joseph.....	C. Turner.....	Aug. 27, 1913.....	320 00
Masstown.....	R. Dykeman.....	Feb. 24, 1913.....	80 00
Mauger beach, light and fog alarm.....	W. Icton, Sr.....	July 8, 1903.....	980 00
Medway.....	S. T. Foster.....	Mar. 20, 1900.....	140 00
*Medway head.....	J. Wynacht.....	April 18, 1913.....	320 00
Metaghan river.....	J. A. Melancon.....	Dec. 7, 1911.....	160 00
Minudie.....	F. Vernon.....	May 3, 1909.....	100 00
Mitchener point.....	J. Smith.....	Sept. 28, 1912.....	230 00
*Moser island.....	S. Moser.....	Nov. 6, 1885.....	440 00
*Mouton, Port.....	A. H. Cook.....	April 27, 1912.....	395 00
Mullins point range.....	J. Mullins.....	June 8, 1892.....	320 00
Munro point.....	F. D. McLeod.....	May 13, 1912.....	190 00
Musquodoboit (front).....	J. Kent.....	April 20, 1904.....	260 00
Musquodoboit (back).....	A. M. Kent.....	Nov. 20, 1908.....	180 00
*Negro island.....	B. Nickerson.....	July 26, 1897.....	520 00
*Neil harbour.....	G. Sweet.....	Aug. 11, 1911.....	240 00
New harbour.....	S. Zinck.....	Mar. 5, 1913.....	100 00
Noel.....	J. Conley.....	Nov. 19, 1913.....	120 00
North, Cape, light and fog alarm.....	M. C. McPherson (lgtkeeper) J. G. McAskill (engineer).....	Feb. 6, 1913..... May 29, 1911.....	500 00 770 00
North East harbour range.....	E. Hagar.....	Jan. 28, 1914.....	260 00
Or, Cap d', fog alarm.....	D. P. McAleese.....	Oct. 30, 1913.....	880 00
*Ouetique island.....	F. A. Burke.....	Feb. 16, 1907.....	520 00
*Owls head.....	S. W. Blaxland.....	Dec. 2, 1911.....	410 00

* \$25 for operating fog horn or bell.

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STATEMENT of lightstations and names of lightkeepers, etc.—*Continued.*NOVA SCOTIA AGENCY—*Continued.*

Name of Station.	Name of Lightkeeper.	Appointed.	Salary.
			\$ cts.
*Page island.	A. M. Powell.	Feb. 17, 1906.	320 00
Parker cove.	C. Halliday.	May 30, 1912.	150 00
*Parrsboro.	W. J. Simpson.	Oct. 27, 1911.	455 00
*Pease island.	T. Baker.	May 19, 1879.	520 00
Peggy point.	S. H. Garrison.	Dec. 22, 1902.	520 00
Pennant harbour.	P. A. Gray.	June 30, 1903.	180 00
*Petitdegrat.	X. Marchand.	Dec. 3, 1912.	275 00
Pictou bar.	G. Carmichael.	Nov. 12, 1910.	580 00
Pictou custom house.	D. Munro.	July 19, 1912.	125 00
Pictou harbour range.	J. Dicks.	July 19, 1912.	275 00
Pictou island, east end.	A. McFarlane.	June 8, 1892.	600 00
Pictou island, west end.	C. D. Patterson.	Mar. 29, 1905.	600 00
Pictou island wharf.	J. McLean.	Dec. 22, 1911.	125 00
Pomquet island.	M. Murphy.	Dec. 18, 1890.	520 00
Pope harbour.	J. Abriel.	Nov. 18, 1911.	410 00
Portapique.	W. Chisholm.	Feb. 26, 1914.	120 00
Porter point.	Frederick W. Bishop.	April 29, 1904.	180 00
*Poulamon.	H. Young.	Dec. 10, 1912.	275 00
Prim point, light and fog alarm.	L. M. Ellis.	Oct. 19, 1912.	1,080 00
*Pubnico harbour.	G. D. Amiro.	Feb. 6, 1893.	440 00
Pugwash.	C. J. Chapman.	June 15, 1912.	395 00
*Quake island.	E. Fader.	Feb. 9, 1910.	425 00
*Queensport.	T. O'Leary.	April 12, 1913.	350 00
Race, Cape, light and fog alarm.	J. Myrick.	Nov. 1, 1897.	2,300 00
Red islands.	J. P. Campbell.	Nov. 30, 1901.	180 00
*Redman head.	J. Croft.	Sept. 10, 1909.	260 00
Rond, Cap.	J. J. Mauger.	Nov. 16, 1898.	520 00
Roseway, Cape, light and fog alarm.	J. L. McKenna.	Mar. 31, 1899.	1,180 00
Sable, Cape, light and fog alarm.	A. H. Cunningham.	July 16, 1902.	1,180 00
Sable island, E.E.	J. Gregoire.		225 00
Sable island, W.E.	J. Edwards.		225 00
*Sable island, Cape, west head.	W. B. Smith, Jr.	April 12, 1890.	320 00
St. Ann harbour.	A. Nicholson.	June 5, 1905.	260 00
St. Esprit island.	A. Ferguson.	Feb. 27, 1914.	600 00
*St. George, Cape.	John Murray.	Nov. 3, 1882.	320 00
St. Lawrence, Cape.	C. Jamieson.	Sept. 21, 1893.	600 00
St. Mary, Cape.	B. H. Robicheau.	July 5, 1886.	520 00
St. Paul island, N, light and fog alarm.	J. McLeod.	Nov. 1, 1912.	1,440 00
St. Paul island, S.	A. G. McNeil.	Sept. 5, 1913.	600 00
Salter head.	C. Smith.	June 21, 1888.	120 00
Sambro, light and explosive fog signal.	A. Gilkie.	Jan. 8, 1877.	980 00
Sambro harbour.	J. H. Finlay.	Dec. 7, 1899.	180 00
Sambro inner island.	E. Smith.	Jan. 3, 1908.	180 00
*Sand Spit.	N. D. Butler.	Feb. 6, 1913.	320 00
Scatari, light and fog alarm.	J. Nearing.	May 25, 1912.	1,440 00
Seal island, S. E. coast, light and fog alarm.	J. Crowell.	Oct. 14, 1896.	1,180 00
Shafner point.	J. K. Healy.	Dec. 17, 1912.	230 00
Sharp, Cape, light and fog alarm.	J. E. George.	April 12, 1913.	880 00
Shet Harbour passage.	G. W. Wambolt (temp.).	Dec. 25, 1911.	110 00
*Sheet rock.	S. Kenny.	June 2, 1909.	680 00
*Ship harbour.	H. Parmer.	Oct. 14, 1899.	380 00
Shulie.	C. Patterson.	Oct. 26, 1905.	260 00
Sissiboo.	L. P. Amirault.	April 10, 1912.	275 00
Spencer island.	R. Spicer.	Oct. 22, 1912.	150 00
Spencer point.	R. A. Spencer.	April 1, 1870.	180 00
Steven point range.	D. Fullerton.	Oct. 7, 1912.	150 00
*Stoddart island.	E. Larkin.	Mar. 18, 1896.	320 00
*Sydney bar.	D. H. McNeil.	Nov. 16, 1912.	395 00
Sydney, Battery point range.	J. J. McDonald.	June 30, 1913.	80 00
Sydney range (front).	H. Lewis.	May 8, 1913.	320 00
Sydney range (back).	A. J. Lewis.	May 2, 1905.	260 00
Tanner island.	R. G. Wight.	Sept. 24, 1913.	180 00
Terence bay.	S. P. Slaunwhite.	Oct. 13, 1903.	180 00
Three Top island.	H. S. Munroe.	May 24, 1912.	395 00

* \$25 for operating fog horn or bell.

SESSIONAL PAPER No. 21

STATEMENT of lightstations and names of lightkeepers, etc.—*Continued.*NOVA SCOTIA AGENCY—*Continued.*

Name of Station.	Name of Lightkeeper.	Appointed.	Salary.
			\$ cts.
*Torbay	G. A. Shrader	May 13, 1912.	395 00
Troop point	R. F. Schaffner	Nov. 7, 1912.	150 00
Tupper, Point	D. Gillis	Feb. 6, 1906.	410 00
Tusket river	S. LeBlanc	Aug. 2, 1889.	380 00
Victoria beach	S. Haynes	April 13, 1912.	150 00
Wade, Port	H. Buike	" 15, 1912.	125 00
Wallace harbour range	A. D. Lawson	Jan. 7, 1913.	230 00
Walton harbour	S. Brown	Dec. 16, 1911.	230 00
*Wedge island	W. R. Church	Mar. 22, 1907.	680 00
Westhaver island	A. Strum	Sept. 8, 1888.	320 00
West Ironbound island	F. N. Wolfe	Dec. 19, 1916.	425 00
*Westport	E. W. Suthern	April 12, 1890.	520 00
*Whitehead island	A. Munroe	Jan. 15, 1912.	620 00
Whycocomagh	M. Matheson	Sept. 11, 1884.	120 00
Wolville	J. L. Franklyn	April 4, 1902.	180 00
*Woods harbour	J. Goodwin	Aug. 27, 1900.	320 00
Yarmouth corner beacon	C. J. O'Hanley	Oct. 17, 1905.	260 00

PRINCE EDWARD ISLAND AGENCY.

Alberton range	J. Skerry	June 12, 1913.	120 00
Annandale range	J. Norton	July 12, 1912.	150 00
Bear, Cape	H. Hyde	July 5, 1912.	460 00
Belle river	M. J. Bell	April 29, 1913.	80 00
Big Tignish range	D. Handraban	Oct. 7, 1912.	190 00
*Blockhouse point	N. W. Currie	April 27, 1912.	460 00
Brighton beach range	J. Purcell	Dec. 16, 1911.	350 00
Brush wharf range	F. F. Dreeland	Mar. 30, 1912.	105 00
Cardigan river	J. D. Morrison	Aug. 15, 1901.	140 00
Cascumapeque	W. Mallet	Feb. 27, 1914.	380 00
Covehead range	J. McCabe	Dec. 20, 1911.	130 00
Darnley basin range	C. Taylor	June 14, 1897.	120 00
Darnley point range	C. Morrison	May 14, 1913.	220 00
Douse point range	H. A. McDonald	(Temporary)	120 00
East point, light and fog alarm	A. C. McIntyre	April 10, 1912.	905 60
East Souris	G. N. McDonald	July 14, 1913.	440 00
Egmont, cape	E. J. Arsenault	Aug. 26, 1912.	335 00
Fish Island range	P. Hickey	May 22, 1913.	380 00
Georgetown (front)	J. Vatcher	Feb. 27, 1914.	180 00
Georgetown (back)	R. Westaway	July 19, 1912.	220 00
Georgetown wharf	S. Hemphill	Jan. 13, 1913.	140 00
Hazard point range	E. Stewart	June 11, 1910.	305 00
*Indian point	F. W. Peters	May 2, 1913.	440 00
Leards range (outer)	A. J. Howatt	July 22, 1893.	180 00
Leards range (inner)	K. C. Holmes	May 22, 1912.	150 00
Little Channel range	W. Hardy	July 26, 1875.	180 00
London, New range	J. A. Pidgeon	May 24, 1912.	190 00
Miminegash (front)	P. O'Brien	May 14, 1897.	120 00
Miminegash (back)	J. Costain	June 5, 1913.	100 00
Murray harbour (front)	L. McNeill	April 17, 1912.	105 00
Murry harbour (back)	R. Penny	Nov. 11, 1897.	120 00
North point	D. P. McCarthy	Aug. 5, 1912.	395 00
Northport range	B. Mountain	July 13, 1912.	150 00
Nor h Rustico ranges	L. Blacquiére	April 22, 1912.	190 00
Pannure head light and fog alarm	W. A. McDonald	Sept. 28, 1912.	452 50
Prim point	M. Condon, (Engineer)	Aug. 10, 1908.	490 00
Savage harbour range	S. A. McLean	July 27, 1912.	395 00
Saw Cow head	J. A. McDonald	" 11, 1889.	180 00
	M. P. O'Raneghan	April 21, 1873.	440 00

* \$25 for operating for horn or bell.

5 GEORGE V., A. 1915

STATEMENT of lightstations and names of lightkeepers, etc.—*Continued.*PRINCE EDWARD ISLAND AGENCY—*Continued.*

Name of Station.	Name of Lightkeeper.	Appointed.	Salary.
			\$ cts.
Shipwreck point.....	F. McKinnon.....	Oct. 30, 1913....	380 00
Summerside (back).....	F. Muttart.....	May 3, 1912....	125 00
Summerside (front).....	J. Fraser.....	April 12, 1897....	180 00
St. Peters island.....	J. J. Taylor.....	June 15, 1912....	335 00
St. Peters range.....	J. McGrath.....	" 15, 1912....	190 00
Tracadie range.....	W. A. McDonald.....	Dec. 22, 1911....	160 00
Tryon, Cape.....	W. Bell.....	Mar. 17, 1905....	380 00
Warren farm range.....	C. E. H. Newson.....	May 11, 1912....	125 00
West point.....	W. McDonald.....	Aug. 22, 1876....	440 00
West point wharf.....	J. N. Ladner.....	Sept. 6, 1912....	125 00
Wood island.....	L. Morrow.....	Oct. 29, 1912....	335 00
Wood island harbour range.....	J. Young.....	Nov. 14, 1902....	140 00
Wrights range.....	C. L. Wright.....	June 14, 1894....	180 00

QUEBEC AGENCY.

Amherst island.....	C. Cormier.....	Mar. 21, 1911....	480 00
*Amherst wharf.....	P. J. Brophy.....	Nov. 15, 1910....	90 00
Amour point, light and fog alarm.....	T. Wyatt.....	Oct. 18, 1889....	1,440 00
Anguille, cape, light and fog alarm.....	A. Patry.....	Oct. 9, 1908....	1,440 00
Ange Gardien (back).....	P. Vézina.....	Mar. 14, 1912....	105 00
Ange Gardien, (front).....	F. Doyon.....	Apr. 12, 1912....	105 00
Anticosti, S. W. point.....	Z. Lemieux.....	July 25, 1900....	880 00
Anticosti, west point, light and explosive fog signal.....	L. Malouin.....	May 24, 1912....	905 00
Bagot bluff, light and fog alarm.....	E. Laprise.....	Apr. 18, 1903....	1,180 00
*Barachois de Malbaie.....	J. Girard.....	May 14, 1912....	105 00
Basile, Pointe à (front).....	E. Douville.....	Feb. 6, 1901....	220 00
Basile, Point à (back).....	G. Demers.....	Mar. 12, 1914....	180 00
*Basse, Point.....	A. Arseneau.....	May 17, 1911....	90 00
Bauld, Cape, light and fog alarm.....	E. Fontaine.....	July 15, 1905....	1,440 00
Beaufils, Anse à.....	P. J. Ferguson.....	May 21, 1912....	85 00
Bellier, Ile au.....	W. Gaudreault.....	Oct. 30, 1901....	200 00
Bellechasse.....	J. O. Bilodeau.....	June 15, 1903....	520 00
Belle isle, north end, light and fog alarm.....	W. G. Wyatt.....	Oct. 16, 1913....	1,440 00
Belle, isle, south end, light and fog alarm.....	J. Richards.....	Oct. 7, 1912....	1,675 00
Bersimis range.....	H. Grenier.....	Aug. 8, 1903....	180 00
Bicquette island, light and fog alarm.....	E. Heppel.....	Mar. 21, 1913....	980 00
Bird rocks, light and fog alarm.....	E. Bourque.....	Aug. 5, 1912....	1,475 00
Bleue, Pointe.....	A. Tessier.....	June 9, 1901....	100 00
Bonaventure, Little.....	B. Arsenault.....	July 26, 1913....	80 00
Bonaventure point.....	O. Bourdage.....	June 2, 1913....	260 00
Bonaventure river.....	F. Arsenault.....	April 26, 1913....	80 00
Brandy Pots.....	A. Richard.....	Oct. 7, 1878....	600 00
Brion island.....	P. Chevrier.....	June 23, 1905....	600 00
Brulé Cap, range.....	F. Fillion.....	Feb. 24, 1912....	540 00
Caribou river, (front).....	H. Savard.....	May 12, 1913....	105 00
Caribou river, (back).....	J. Savard.....	July 1, 1892....	120 00
*Carleton.....	L. Leblanc.....	April 12, 1913....	380 00
Carleton wharf.....	J. Cauchon.....	July 20, 1913....	80 00
Carlisle, new.....	J. Chisholm.....	Dec. 17, 1908....	100 00
Chat, Cap, light and explosive fog signal.....	L. Côté.....	Dec. 3, 1901....	880 00
Chat, River range.....	J. Chenard.....	Dec. 15, 1911....	130 00
Chicoutimi.....	A. Harvey.....	May 30, 1889....	100 00
Cloridorme range.....	J. Francoeur.....	Dec. 23, 1912....	140 00
Clarke city.....	P. W. Clarke.....	Feb. 10, 1913....	85 00
Corbeau, Cap au.....	P. Cimon.....	July 4, 1912....	105 00
Coudres, Isle aux.....	E. Pednault.....	April 15, 1912....	85 00
Crane island.....	D. Vézina.....	April 26, 1904....	440 00
*Daniel, Port.....	M. McInnis.....	Jan. 19, 1914....	100 00

* \$25 for operating fog horn or bell.

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STATEMENT of lightstations and names of lightkeepers, etc.—*Continued.*QUEBEC AGENCY—*Continued.*

Name of Station.	Name of Lightkeeper.	Appointed.	Salary.
			\$ cts.
*Daniel, Port west.....	I. McKenzie.....	Dec. 26, 1912..	140 00
D'Espoir, Cape.....	C. Bourget.....	Nov. 1, 1897..	600 00
Dogs, Cape, light and fog alarm.....	L. Bergeron.....	Sept. 11, 1909..	980 00
Domaine (front).....	N. Gagnon.....	April 23, 1912..	165 00
Domaine (back).....	X. Emond.....	July 13, 1908..	120 00
East cape.....	G. Sergerie.....	Nov. 3, 1910..	200 00
*Eboulements, Les.....	H. Tremblay.....	Mar. 7, 1914..	80 00
Egg island.....	E. Chouinard.....	May 24, 1911..	640 00
Eau, Anse à l'.....	A. Gingras.....	May 29, 1906..	100 00
*Entry island.....	G. F. Cullins.....	July 30, 1901..	380 00
Escoumains wharf.....	C. Boucher.....	Sept. 14, 1911..	90 00
Escoumains range.....	Saguenay Lumber Co.....	Sept., 1906.....	150 00
Eskimo point range.....	J. F. Poudreault.....	Oct. 3, 1907..	180 00
*Etang du Nord.....	N. Arseneau.....	May 16, 1911..	480 00
Fame point, light and fog alarm.....	H. L. Ascah.....	Feb. 1, 1913..	1,200 00
Father point light and fog alarm.....	J. Cahill.....	Mar. 16, 1912..	1,260 00
Ferolle point, fog alarm.....	D. Beaudoin.....	Oct. 19, 1912..	1,030 00
Flat island.....	A. McKenna (temporary).....		680 00
Flower island, light and explosive fog signal.....	J. Lavallé.....	April 12, 1905..	780 00
Great Fox river, range.....	T. Dufresne.....	Dec. 1, 1911..	160 00
*Gascons, Anse aux.....	J. Ahier.....	Jan. 19, 1914..	80 00
Gaspé, Cape, light and explosive fog signal.....	J. Smith.....	Jan. 20, 1912..	805 00
Godbout range.....	N. A. Comeau.....	Mar. 31, 1910..	140 00
*Goose cape.....	C. Audet.....	Feb. 13, 1914..	320 00
Grand Entry harbour range.....	A. Turbide.....	April 25, 1907..	170 00
Grande île, Kamouraska.....	J. Desjardins.....	Aug. 6, 1913..	600 00
Grande Vallée range.....	A. Fournier.....	Oct. 15, 1904..	180 00
Grand Pabos.....	W. McRea.....	June 4, 1912..	85 00
*Grand river.....	W. Bisson.....	Oct. 26, 1896..	220 00
*Grand river wharf.....	D. Boutin.....	April 22, 1912..	85 00
Green island, light and explosive fog signal.....	R. W. Lindsay.....	Sept. 25, 1888..	880 00
Greenly island, light and fog alarm.....	N. Côté.....	Aug. 11, 1908..	1,440 00
Griffin cove range.....	H. Boulet.....	July 4, 1908..	180 00
Grosse Roche.....	X. Maltais.....	Mar. 28, 1913..	320 00
Heath point, light and explosive fog signal.....	C. Hubert.....	July 27, 1907..	980 00
Hospital rock range.....	V. Lavoie.....	Mar. 22, 1909..	380 00
Janvrin and Paddy shoals.....	K. J. Carter.....	April 6, 1911..	200 00
Loup, Rivière du.....	E. Madore.....	March 4, 1913..	100 00
Magdalen cape, light and fog alarm.....	F. J. Sasseville.....	June 9, 1886..	980 00
Magpie bay range.....	A. Dupuis.....	Oct. 22, 1907..	180 00
Mai, Îles de.....	A. Lebel.....	" 30, 1913..	180 00
*Maquereau, point.....	A. Bertrand.....	Dec. 21, 1877..	440 00
Martre, Rivière à la, light and fog alarm.....	J. L'italien.....	Mar. 5, 1912..	1,030 00
Matane.....	J. Banville.....	Feb. 1, 1897..	520 00
Metis, Little.....	E. Caron.....	May 29, 1906..	600 00
Mistook range.....	J. Fleury.....	Feb. 14, 1912..	150 00
Moisie ranges.....	A. St. Louis.....	June 14, 1909..	170 00
Mont Louis range.....	J. Lemieux.....	Jan. 3, 1912..	150 00
Monts, Pointe des, light and explosive fog signal.....	V. Faffard.....	July 10, 1889..	880 00
Moulin, Rivière du (back).....	G. Laberge.....	Aug. 13, 1913..	100 00
Moulin, Rivière du (front).....	G. Tremblay.....	Sept. 9, 1889..	120 00
Natashkwan, Little.....	D. Landry.....	May 13, 1910..	305 00
Natashkwan point.....	W. Landry.....	July 14, 1913..	220 00
*Newport point.....	A. David.....	Jan. 20, 1912..	190 00
New Richmond wharf.....	W. Campbell.....	Feb. 14, 1910..	95 00
*Noire, Pointe range.....	J. E. Boulianne.....	Jan. 18, 1904..	320 00
Norman, Cape, light and fog alarm.....	A. W. Campbell.....	July 28, 1911..	1,080 00
Oak point range.....	T. Harper.....	July 24, 1909..	180 00
Orignaux, Pointe aux.....	C. Levesque.....	Dec. 8, 1913..	380 00
*Paspebiac.....	J. Loisel.....	Aug. 27, 1894..	260 00
*Percé.....	F. Bourget.....	Mar. 18, 1893..	260 00
Percé wharf.....	P. Levesque.....	May 6, 1912..	85 00
Peribonka, inner and outer ranges.....	E. Gaudreault.....	June 15, 1912..	230 00

* \$25 for operating fog horn or bell.

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STATEMENT of lightstations and names of lightkeepers, etc.—*Continued.*QUEBEC AGENCY—*Continued.*

Name of Station.	Name of Lightkeeper.	Appointed.	Salary.	
			\$	cts.
Peribonka, middle range.....	F. C. Frasse.....	May 29, 1912..	125	00
Perroquet island.....	H. Vigneau.....	" 8, 1912..	620	00
* Peter Point.....	W. A. St. Croix.....	Feb. 13, 1914..	520	00
Pilgrim, Long.....	H. Morin.....	April 29, 1898..	600	00
Pipe, Rivière à la.....	A. Morin.....	Oct. 3, 1901..	140	00
Portneuf.....	E. Tremblay.....	May 16, 1903..	520	00
Portneuf range.....	P. Poitras.....	Oct. 24, 1906..	180	00
Quebec harbour range.....	Quebec Harbour Comm'srs..		60	00
Ray, Cape, light and fog alarm.....	E. H. Rennie.....	Oct. 19, 1884..	1,440	00
Red islet.....	P. T. Fraser.....	April 12, 1890..	780	00
Rich point.....	N. Breton.....	May 16, 1896..	680	00
*Rimouski wharf.....	U. Lavoie.....	Oct. 24, 1906..	100	00
Roberval range.....	Roberval Electric Co.....	June 21, 1898..	100	00
Rosier, Cape, light and fog alarm.....	E. Costin.....	Nov. 4, 1890..	1,180	00
St. Adelaide de Pabos.....	S. Duguay.....	May 14, 1912..	85	00
St. Alphonse.....	P. Tremblay.....	June 19, 1895..	100	00
Ste. Anne de Beaupré (back).....	G. Paré.....	June 28, 1912..	105	00
Ste. Anne de Beaupré (front).....	J. DeBlois.....	July 4, 1912..	105	00
Ste. Anne des Monts range.....	F. Henley.....	Dec. 22, 1911..	160	00
Ste. Anne des Monts wharf.....	D. Dugas.....	Oct. 31, 1912..	85	00
St. Antoine (front).....	L. Fréchette.....	Aug. 11, 1908..	140	00
St. Antoine (back).....	G. Demers.....	Dec. 7, 1911..	160	00
St. Charles de Caplan wharf.....	U. Dion.....	May 20, 1911..	90	00
Ste. Croix.....	W. A. Thurber.....	June 28, 1907..	260	00
Ste. Croix (front).....	T. Croteau.....	Mar. 28, 1901..	120	00
Ste. Croix (back).....	Mrs. D. Racette.....	Dec. —, 1890..	120	00
Ste. Famille (back).....	A. Paquet.....	May 17, 1908..	120	00
Ste. Famille (front).....	A. Poulin.....	April 26, 1898..	140	00
Ste. Félicité fog alarm.....	A. Otis.....	Feb. 1, 1913..	680	00
St. François (front).....	F. X. Lamelin.....	April 11, 1912..	125	00
St. François (back).....	A. Emond.....	July 12, 1913..	120	00
St. François wharf.....	O. Emond.....	Nov. 2, 1912..	85	00
*St. Godfroy wharf.....	J. Joseph.....	May 14, 1912..	85	00
St. Jean.....	A. Laverdière.....	April 10, 1912..	335	00
St. Jean, Anse.....	F. Lavoie.....	Mar. 13, 1889..	100	00
St. Laurent.....	T. Coulombe.....	Dec. 23, 1911..	335	00
St. Mary island.....	J. Galibois.....	Temporary.....	600	00
St. Martin, Poste (front).....	J. Duperré.....	Feb. 14, 1914..	100	00
St. Martin, Poste (back).....	A. Tremblay.....	Feb. 4, 1913..	105	00
St. Omer wharf.....	H. Godbont.....	Feb. 24, 1913..	80	00
Ste. Pétronille.....	N. Ferland.....	Sept. 3, 1901..	320	00
St. Pierre (front).....	A. Asselin.....	Mar. 19, 1912..	105	00
St. Pierre (back).....	J. Roberge.....	May 13, 1908..	120	00
*St. Siméon wharf.....	E. Tremblay.....	Aug. 13, 1912..	85	00
St. Thomas de Montmagny range.....	E. Nicol.....	April 7, 1910..	135	00
Salmon, Cape, light and fog alarm.....	L. Bouchard.....	May 16, 1896..	980	00
*Sandy Beach point.....	J. N. Ascah.....	Dec. 2, 1911..	560	00
Seven islands, light and fog alarm.....	H. Demeules.....	July 13, 1909..	1,180	00
Seven islands wharf.....	C. Cormier.....	Nov. 18, 1913..	80	00
Simard (back).....	T. Simard.....	May 13, 1913..	100	00
Simard (front).....	H. Simard.....	May 13, 1913..	120	00
Stone Pillar and Algernon rock.....	E. Francœur.....	Feb. 15, 1912..	805	00
Trembles, Pointe aux.....	L. Gauvin.....	Sept. 20, 1913..	80	00
Trois Pistoles wharf.....	D. D'Amours.....	Dec. 21, 1911..	130	00
*Upper Traverse.....	A. Fournier.....	April 14, 1906..	980	00
Valin, River (back).....	G. Lavoie.....	June 7, 1909..	90	00
Valin, River (front).....	M. Lavoie.....	June 7, 1909..	90	00
Verte, Ile, range.....	J. Charron.....	Mar. 1, 1912..	125	00

* \$25 for operating fog horn or bell.

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STATEMENT of lightstations and names of lightkeepers, etc.—*Continued.*

MONTREAL AGENCY.

Name of Station.	Name of Lightkeeper.	Appointed.	Salary.
			\$ cts.
Aigle, Ile à l' (front)	C. Lussier	April 16, 1912.	150 00
Aigle, Ile à l' (back)	O. Beauchemin	April 17, 1912.	150 00
Anglais, Pointe aux	A. Labrosse	July 19, 1912.	275 00
Argenteuil bay range	J. Giroux	Aug. 6, 1912.	125 00
Ash and Bloody islands	G. L. Robinson	Nov. 25, 1912.	320 00
Bague, Ile à la	E. Thounin	May 3, 1912.	230 00
Barques, Ile des	J. Lavallée	April 30, 1913.	320 00
Barre à Boulard (front)	N. Daigle	May 28, 1904.	320 60
Barre à Boulard (back)	O. Lemay	Aug. 9, 1912.	125 00
Batiscan (back)	P. St. Arnault	June 20, 1912.	125 00
Batiscan (front)	B. Duval	July 27, 1912.	190 00
Batture St. Antoine traverse range	A. Colette	Nov. 23, 1910.	110 00
Beauharnois range	J. Julien	Jan. 20, 1912.	275 00
Becancour (front)	O. Gingras	Mar. 15, 1906.	260 00
Becancour (back)	A. Tourigny	Mar. 15, 1906.	180 00
Bequets, St. Pierre les	J. Mailly	July 3, 1913.	100 00
Bellerive Park range	C. Roy	Jan. 12, 1905.	260 00
Bellevue, Ste. Anne de	E. Filon	June 18, 1913.	180 00
Belœil bridge	H. Auclair	Aug. 20, 1913.	80 00
Black point	J. H. Peters	June 1, 1891.	100 00
Blondeau, Chute à, range	L. Kerr	July 27, 1912.	230 00
Bouchard, Ile (front)	Y. Laporte	April 21, 1912.	220 00
Bouchard, Ile (back)	A. Chicoine, jr.	June 16, 1903.	180 00
Boucherville range	H. Carrière	Aug. 26, 1903.	140 00
Cadieux, Pointe à	S. Poirier	May 4, 1904.	260 00
Cardinal traverse range	P. Morin	Nov. 22, 1910.	110 00
Caron point	C. Proulx	May 15, 1912.	105 00
Chambly basin range	J. de Senneville	June 24, 1907.	220 00
Chambly canton range	J. Savage	July 10, 1907.	220 00
ChAMPLAIN (front)	Mrs. A. Chartier	July 3, 1912.	125 00
ChAMPLAIN (back)	C. Marchand	June 21, 1912.	150 00
ChAMPLAIN, upper (front)	J. Vézina	June 21, 1912.	125 00
ChAMPLAIN, upper (back)	O. Lapointe	April 10, 1913.	140 00
Charles, Cape (front)	A. Boisvert	July 23, 1901.	140 00
Charles, Cape (back)	A. Baron	June 26, 1901.	140 00
Chene, Pointe au	H. Lavoie	May 17, 1913.	140 00
Church point traverse St. Antoine (front)	F. Chagnon	Nov. 8, 1913.	50 00
Church point traverse St. Antoine (back)	P. Chagnon	Nov. 8, 1913.	50 00
Citrouille, Pointe	L. L'Heureux	Mar. 3, 1913.	260 00
Contrecoeur course (front)	J. Arpin	April 22, 1904.	140 00
Contrecoeur course (back)	O. Gobeille	April 22, 1912.	150 00
Contrecoeur Verchères (front)	J. B. Gervais	May 13, 1912.	190 00
Contrecoeur Verchères (back)	J. Dupuy	Nov. 1, 1912.	190 00
Contrecoeur traverse (front)	P. Piché	April 22, 1912.	150 00
Contrecoeur traverse (back)	A. Lacroix	July 26, 1904.	180 00
Deslauriers, Ile (front)	J. B. Lozeau	May 3, 1912.	190 00
Deslauriers, Ile (back)	A. Desmarais	April 23, 1912.	105 00
Dorval and pointe Claire	B. Gloude	Sept. 7, 1872.	400 00
Gallia bay, upper range	C. Fleury	May 24, 1912.	275 00
Gallia bay, lower range	J. Cournoyer	July 19, 1912.	275 00
Gentilly (front)	L. Lebeuf	Aug. 5, 1912.	275 00
Gentilly (back)	D. Mailhot	April 2, 1907.	220 00
Georgeville	O. H. Hutchins	June 21, 1913.	80 00
Grace, Ile de (front)	B. Raquier	July 19, 1912.	275 00
Grace, Ile de (back)	L. Lavallée	May 13, 1912.	150 00
Graham (front)			
Graham (back)	E. Lavigne	Feb. 16, 1911.	90 00
Green shoal	A. Laberge	May 20, 1902.	260 00
Grenville ranges	W. Davison	Mar. 29, 1910.	250 00
Grondines (upper front)	A. Rivard	Nov. 25, 1912.	230 00
Grondines (upper back)	O. Rivard	Sept. 21, 1912.	150 00
Grondines point (front)	H. Rivard	Aug. 30, 1912.	335 00
Grondines point (back)	F. Hamelin	June 21, 1912.	150 00
Hebert point	X. Hébert	Sept. 30, 1910.	110 00

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STATEMENT of lightstations and names of lightkeepers, etc.—*Continued.*MONTREAL AGENCY—*Continued.*

Name of Station.	Name of Lightkeeper.	Appointed.	Salary.
			\$ cts.
Hochelaga range.....	U. Paquette.....	Sept. 1, 1910.....	250 00
Jones island.....	J. Charlebois.....	April 22, 1909.....	140 00
Lachine ranges.....	A. Lizotte, Jr.....	April 27, 1910.....	305 00
Lacolle range.....	W. G. Whitman.....	Jan 18, 1904.....	220 00
Lac, Pointe du (front).....	C. Bourassa.....	June 25, 1913.....	320 00
Lac, Pointe du (back).....	S. Paquin.....	May 2, 1900.....	180 00
Langlois pointe.....	A. Langlois.....	July 11, 1888.....	220 00
Laperle traverse range.....	A. Laperle.....	Aug. 7, 1912.....	105 00
Lavaltrie range.....	J. O. Martineau.....	Jan. 20, 1912.....	335 00
Lead Mines.....	W. Wheeler.....	June 1, 1891.....	100 00
Longue pointe traverse range.....	A. Valiquette.....	Mar. 10, 1910.....	210 00
L'Original.....	G. Seguin.....	May 8, 1894.....	180 00
Lotbinière (front).....	Mrs. L. Beaudet.....	Sept. 3, 1903.....	140 00
Lotbinière (back).....	M. Moraud.....	June 19, 1913.....	120 00
Louiseville range.....	O. Plante.....	April 19, 1907.....	220 00
McTavish point.....	J. Campbell.....	Nov. 18, 1896.....	180 00
Madeleine, Cap, lower range (front).....	M. Hébert.....	May 11, 1888.....	140 00
Madeleine, Cap, lower range (back).....	T. Arcand.....	June 21, 1912.....	150 00
Madeleine, Cap, upper range (front).....	D. Montplasier.....	June 21, 1912.....	125 00
Madeleine, Cap, upper range (back).....	L. Loranger.....	June 21, 1912.....	150 00
Madeleine, Cap, village (back).....	T. Rocheleau.....	Aug. 8, 1912.....	125 00
Madeleine, Cap, village (front).....	I. De Grandmont.....	Aug. 8, 1912.....	125 00
Marcotte traverse range.....	F. Marcotte.....	Oct. 18, 1910.....	110 00
Meule, Pointe à la, range.....	D. Menard.....	May 3, 1912.....	230 00
Moine, Ile du (front).....	N. Salvail.....	May 15, 1912.....	150 00
Moine, Ile du (back).....	P. Salvail.....	May 29, 1912.....	190 00
Molson island.....	Miss E. G. Molson.....		140 00
Nicolet (front).....	D. Héroux.....	Dec. 5, 1906.....	320 00
Nicolet (back).....	E. Héroux.....	Dec. 5, 1906.....	180 00
Oka.....	A. Lacroix.....	July 24, 1912.....	125 00
Oka wharf.....	T. Hamelin.....	July 23, 1912.....	85 00
Pads, Ile du, range.....	P. Dandonneau.....	July 19, 1912.....	335 00
Papineauville range.....	J. Chabot.....	June 17, 1897.....	180 00
Perrot, Ile, range.....	O. D'Anjou.....	Sept. 15, 1913.....	140 00
Petite, Ile course range.....	J. Paré.....	Aug. 7, 1912.....	105 00
Petite traverse (front).....	E. Lavigne.....	April 22, 1912.....	125 00
Petite traverse (back).....	H. Jussau.....	April 22, 1912.....	150 00
Platon range.....	C. Beaudet.....	Aug. 24, 1904.....	220 00
Portneuf range.....	E. Paradis.....	April 10, 1912.....	335 00
Raisins, Ile aux, range.....	L. Verville.....	May 13, 1912.....	335 00
Repentigny (front).....	A. Payette.....	Feb. 4, 1913.....	120 00
Repentigny (back).....	L. L. Rivet.....	April 28, 1894.....	140 00
Richelieu.....	J. Auger.....	July 14, 1908.....	220 00
Rigaud.....	O. Mallette.....	April 7, 1910.....	210 00
Ronde, Ile (front).....	H. Charland.....	Aug. 1, 1907.....	500 00
Ronde, Ile (back).....	J. B. Jodin.....	May 2, 1913.....	320 00
Rosalie, Ile.....	A. Seguin.....	Oct. 29, 1912.....	220 00
Ste. Anne lock.....	C. Duquette.....	Mar. 4, 1914.....	140 00
Ste. Anne de Sorel (front).....	M. Razotte.....	May 10, 1912.....	125 00
Ste. Anne de Sorel (back).....	M. Latraverse.....	May 10, 1912.....	150 00
St. Charles point.....	A. Messier.....	Sept. 30, 1910.....	110 00
St. Denis float light.....	A. Bourgeois.....	Aug. 9, 1913.....	120 00
Ste. Emmelie (front).....	J. B. Gaudet.....	Jan. 9, 1911.....	130 00
Ste. Emmelie (back).....	E. Filtreau.....	Mar. 16, 1905.....	140 00
St. Francis, Port, range.....	F. Proulx.....	July 5, 1912.....	335 00
St. Francis river range.....	P. Descheneau.....	Mar. 21, 1912.....	230 00
St. Jean.....	E. Menard.....	Feb. 15, 1909.....	220 00
St. Mark point.....	V. Ducharme, Jr.....	April 23, 1912.....	105 00
St. Onge traverse range.....	A. Larivière.....	Nov. 22, 1910.....	110 00
St. Ours traverse, Ile (front).....	G. Fortin.....	May 13, 1912.....	190 00
St. Ours traverse, Ile (back).....	A. Gaudette.....	Oct. 24, 1908.....	180 00
St. Ours Locks traverse, range.....	D. Lamoureux.....	June 19, 1912.....	105 00
St. Peter, Lake (front).....	L. A. Lamy.....	Jan. 28, 1914.....	320 00
St. Peter, Lake (back, down range).....	J. Lefevre.....	May 11, 1911.....	350 00

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STATEMENT of lightstations and names of lightkeepers, etc.—*Continued.*MONTREAL AGENCY—*Concluded.*

Names of Station.	Name of Lightkeeper.	Appointed.	Salary.
			\$ cts.
St. Peter, Lake (back, up range)	Arthur Paquin	Nov. 7, 1913.	320 00
St. Placide	H. Dubreuil	July 19, 1912.	230 00
St. Roch range	P. Mathieu	July 25, 1913.	100 00
Ste. Thérèse, upper range (front)	J. Poitras	Aug. 2, 1913.	180 00
Ste. Thérèse, upper range (back)	A. Durochers	Aug. 2, 1913.	140 00
Ste. Thérèse, lower range	J. Malo	Feb. 1, 1897.	220 00
St. Valentin range	A. Martin	June 30, 1909.	220 00
Sorel range	Richelieu & Ontario Naviga- tion Co.	Sept. 6, 1854.	95 00
Tetreauville range	A. David	Nov. 18, 1911.	200 00
Three Rivers range	H. Roy	July 28, 1911.	200 00
Varenes	W. Hébert	April 17, 1912.	105 00
Verchères traverse (front)	E. Dansereau	April 13, 1912.	125 00
Verchères traverse (back)	P. Charbonneau	April 21, 1902.	120 00
Verchères village (front)	J. Guyon	April 21, 1902.	140 00
Verchères village (back)	E. Chagnon	April 12, 1912.	105 00
Wadleigh point	J. A. Patterson	June 1, 1891.	100 00
Way channel and Besserer crossing	M. Beauchamp	Nov. 20, 1906.	250 00
Way Shoal traverse	M. V. Proulx	Oct. 10, 1912.	125 00
Windmill Point traverse range	O. Phaneuf	April 23, 1912.	105 00
Witch shoal	D. E. Peters	June 1, 1891.	260 00

ONTARIO.

Allumette island	J. Cox	June 12, 1887.	180 00
Allumette lake	J. T. Manders	Sept. 17, 1907.	180 00
Arnprior island	W. Kilroy	Sept. 27, 1905.	260 00
*Arthur, Port	J. C. Banks	Dec. 11, 1908.	520 00
Aylmer island	F. Boucher	Nov. 17, 1882.	260 00
Badgeley island range	O. Proulx	Feb. 3, 1912.	395 00
Barriefield common range	W. Murray	May 17, 1900.	260 00
Baril, Pointe au range	O. Hanson	July 10, 1907.	440 00
Baskins wharf range	S. Sullivan	Dec. 22, 1896.	220 00
*Battle island	E. McKay	April 4, 1913.	600 00
Baymouth, South range	J. A. Ritchie	Sept. 10, 1903.	220 00
Belleville	H. J. Smith	April 27, 1912.	275 00
Bishops bay range	C. Flett	Nov. 7, 1913.	220 00
Blind river range	W. H. McGauley	Jan. 5, 1909.	60 00
Blind river, Eddy wharf range	Eddy Bros.	Oct. 27, 1905.	60 00
Bois Blanc	C. R. Hackett	April 27, 1910.	580 00
Boyd island	Mrs. Eliz. Martin	Jan. 6, 1905.	380 00
Breboef range	W. J. Baxter	Nov. 23, 1885.	440 00
Brighton (3 lights)	H. V. Simpson	May 11, 1888.	520 00
*Bronte	C. Osborne	Dec. 7, 1906.	260 00
Bruce Mines	W. Fleming	March 31, 1909.	100 00
Buckom point	A. Ouellette	Feb. 22, 1913.	220 00
Burlington bay, lights and fog alarm	T. Lundy	May 2, 1905.	780 00
Burnt island	J. A. Acton	May 24, 1912.	380 00
*Burwell, Port (3 lights)	J. Sutherland	June 18, 1894.	520 00
Burwell, Port, inner range	J. Sutherland	Oct. 27, 1909.	100 00
*Byng inlet (3 lights)	L. Lamondin	July 30, 1901.	520 00
Cabot Head, light and fog alarm	L. Martindale	June 15, 1912.	1,030 00
Campbell island	R. Wilson	July 6, 1905.	260 00
Caribou Island, light and fog alarm	J. W. Johnston	May 3, 1912.	1,260 00
Ceccebe lake	R. Nicholson	Feb. 12, 1912.	275 00
Centre Bro. island	J. Miller	Oct. 30, 1913.	260 00
Chantry island	M. McIver	Feb. 16, 1907.	680 00
Chenal Ecarte range	P. Willis	Dec. 3, 1908.	180 00
Cherry island	I. S. Johnson	Nov. 5, 1883.	380 00
*Christian island	A. Collins	March 25, 1891.	600 00

* \$25 for operating fog horn or bell.

5 GEORGE V., A. 1915

STATEMENT of lightstations and names of lightkeepers, etc.—*Continued.*ONTARIO—*Continued.*

Name of Station.	Name of Lightkeeper.	Appointed.	Salary.
			\$ cts
*Clapperton is'and Clark, Point	H. F. Baker..... M. McDonald (temporary keeper).....	Dec. 2, 1895.....	440 00 600 00
Cobourg, fog alarm engineer	J. Lavis.....	Aug. 1, 1910.....	400 00
Colborne, Port, lights and fog alarm	H. Clark, Jr.....	May 30, 1904.....	1,180 00
Colborne, Port, east breakwater.....	J. Madden.....	May 22, 1911.....	350 00
*Colchester reef	F. Malott.....	March 31, 1911.....	930 00
Cole shoal.....	R. P. Boyd.....	April 9, 1884.....	380 00
*Collingwood ranges.....	J. Wilde.....	Feb. 24, 1912.....	460 00
Coppermine point	F. E. Roussain.....	Oct. 10, 1910.....	210 00
*Corbeil point	J. Davienx.....	May 27, 1890.....	440 00
Corunna range.....	W. J. Scott.....	April 23, 1901.....	220 00
Coteau Landing	W. H. E. Filiatreault.....	April 10, 1912.....	190 00
Coulouge lake.....	E. Bertrand.....	July 16, 1908.....	180 00
Cove island, light and fog alarm.....	W. J. Simpson.....	July 5, 1912.....	1,030 00
Credit, Port.....	J. Miller.....	Dec. 16, 1897.....	260 00
Croker, Cape, light and fog alarm	W. Chapman.....	April 27, 1910.....	1,130 00
Current, Little (3 lights).....	I. Allan (temporary).....	April 19, 1913.....	380 00
Dalhousie, Port, lights and fog alarm	G. Houston.....	May 3, 1912.....	705 00
Darlington	Port Darlington Co.....	1886.....	100 00
Deep River islet.....	J. Beauchamp.....	March 3, 1908.....	180 00
Deseronto	Rathbun Lumber Co.....	Oct. 14, 1884.....	200 00
Dover, Port range.....	S. L. Butler.....	July 15, 1897.....	440 00
Duck island, Great, light and fog alarm	N. R. Smith.....	Nov. 25, 1912.....	1,030 00
Edward, Point, range.....	L. Knauff.....	May 23, 1908.....	260 00
Elgin, Port, ranges.....	R. M. Lowry.....	Mar. 14, 1896.....	220 00
False Ducks, light and fog alarm	J. W. Hudgin.....	May 3, 1912.....	905 00
Ferris island.....	J. Morriseau.....	Mar. 24, 1898.....	320 00
Flowerpot island, light and fog alarm.....	W. J. Spears.....	June 15, 1912.....	905 00
Fort William, Ottawa river	C. L. McCool.....	May 17, 1911.....	115 00
Fox island	Moses Emes.....	Dec. 10, 1912.....	260 00
Frenchman bay	W. O'Brien.....	April 14, 1904.....	220 00
* French river, and Bustard rocks, ranges	Mrs. E. B. Borron.....	Jan. 30, 1903.....	680 00
Gananoque narrows.....	Thomas Glover.....	Feb. 3, 1914.....	380 00
Jackstraw shoal.....	C. Miron.....	April 27, 1912.....	540 00
* Gargantua	A. H. Griffith.....	Sept. 17, 1898.....	380 00
Giants Tomb.....	B. Matthews.....	" 28, 1912.....	395 00
Gibraltar point.....	W. Robinson.....	Apr. 12, 1911.....	560 00
Goderich (3 lights).....	W. Robinson.....	" 12, 1911.....	50 00
Goderich beacon.....	R. Lewis.....	" 18, 1913.....	380 00
* Gore Bay	I. Barnes.....	Mar. 20, 1906.....	180 00
* Gravenhurst narrows.....	D. Root.....	Nov. 30, 1908.....	320 00
Grenadier island.....	W. S. Boyd.....	May 14, 1889.....	600 00
* Griffith island	R. Casgrain.....	April 6, 1906.....	380 00
Hamilton island and Glengarry	A. Greenwood.....	April 25, 1912.....	125 00
Hog island	T. Marchildon (lightkeeper).....	Feb. 24, 1912.....	555 00
Hope island, light and fog alarm.....	H. Chester (engineer).....	Sept. 19, 1912.....	625 00
Jackfish bay	B. Almos.....	Oct. 1, 1907.....	100 00
Kagawong	W. M. Boyd.....	April 13, 1893.....	120 00
Kaministiquia.....	J. Armstrong.....	" 28, 1894.....	380 00
* Killarney, E. and W	J. Burke.....	July 5, 1912.....	395 00
Kincardine range.....	W. G. Temple.....	April 30, 1913.....	520 00
Kingsville range.....	W. H. Black.....	July 27, 1902.....	260 00
* Knapp point.....	W. W. Card.....	April 10, 1912.....	230 00
Knight point (4 lights).....	W. Shannon.....	Sept. 27, 1866.....	600 00
* Lamb island.....	A. Alexander.....	April 26, 1897.....	680 00
* Lancaster pier and bar	J. J. Munroe.....	June 8, 1892.....	520 00
Leamington.....	F. H. C. Cnover.....	April 24, 1883.....	260 00
Limekiln crossing range	S. Pettypiece.....	May 11, 1883.....	350 00
Lindoe island	J. G. Wallace.....	" 24, 1912.....	380 00
Lionhead.....	P. W. Brady.....	Sept. 14, 1912.....	85 00
* Lonely island.....	J. Haitse.....	May 11, 1885.....	880 00

* \$25 for operating fog horn or bell.

SESSIONAL PAPER No. 21

STATEMENT of lightstations and names of lightkeepers, etc.—*Continued.*ONTARIO—*Continued.*

Name of Station.	Name of Lightkeeper.	Appointed.	Salary.
			\$ cts.
Long point, E. E., light and fog alarm.....	S. B. Cooke.....	June 9, 1897..	1,180 00
Long point, W. E.....	F. E. Mason.....	June 3, 1901..	600 00
Lower narrows.....	J. B. LeBlanc.....	Jan. 4, 1904..	180 00
Lyal island.....	J. McKay.....	Oct. 27, 1884..	680 00
McKay island.....	J. Harvey.....	July 10, 1907..	380 00
McNicol range.....	J. Beatty.....	Aug. 2, 1913..	260 00
McQuestion point.....	Mrs. E. McLeod.....	Feb. 22, 1904..	180 00
* Maitland, Port, range.....	Mrs. J. Grant.....	June 19, 1907..	440 00
Manitowaning.....	J. J. Morrow.....	May 3, 1912..	190 00
Meaford.....	S. Dutcher.....	May 7, 1877..	260 00
* Michipicoten harbour.....	W. T. Richardson.....	Sept. 27, 1900..	380 00
* Michipicoten and Agate island.....	C. Davieux.....	June 29, 1910..	580 00
Michipicoten island, E. E.....	Wm. Sherlock.....	Feb. 5, 1912..	620 00
Middle Island.....	J. Lidwell.....	May 16, 1911..	480 00
Midland point, range.....	T. Williams.....	July 19, 1912..	275 00
Mississagi island.....	L. D. McDonald.....	May 16, 1896..	600 00
Mississagi strait, light and fog alarm.....	W. A. Grant.....	Mar. 3, 1913..	980 00
Mitchell bay range.....	S. MacDonald.....	Feb. 22, 1912..	150 00
Mohawk island.....	R. O. Smithers.....	Mar. 3, 1896..	600 00
Morris island.....	A. Coburn.....	April 10, 1912..	190 00
* Narrow island.....	A. B. Boyter.....	Jan. 3, 1898..	380 00
Niagara-on-the-lake, lights and fog alarm..	R. J. Allen, (lightkeeper).....	July 19, 1907..	260 00
	J. W. McMillan, (engineer).....	Nov. 30, 1910..	580 00
Nigger island.....	C. Jeffrey.....	April 28, 1894..	320 00
Ninemile point, light and fog alarm.....	S. Veech.....	Mar. 7, 1894..	980 00
* Nottawasaga island.....	Mrs. McNabb, (temporary).....		620 00
Oakville.....	M. Felan.....	April 28, 1894..	260 00
Onderdonk point.....	W. Allison.....	April 25, 1912..	150 00
* Otter island.....	R. McMenemy.....	Nov. 17, 1903..	600 00
Owen Sound, range.....	A. Robertson.....	Oct. 30, 1903..	260 00
Parisian island, light and fog alarm.....	J. Douglas (temporary).....		1,030 00
	S. Bottom.....	Nov. 12, 1910..	705 00
Pele passage, light and fog alarm.....	G. Simpson, (1st assistant).....	July 5, 1912..	485 00
	H. Andrews, (2nd ").....	April 15, 1913..	310 00
Penetanguishene and Whisky island.....	C. Columbus.....	Mar. 18, 1893..	440 00
* Peninsula harbour.....	J. Blondin.....	Oct. 14, 1910..	660 00
Peter point, light and fog alarm.....	T. A. Farrington.....	Jan. 25, 1913..	995 00
Peter rock.....	S. Nichols.....	Nov. 7, 1913..	600 00
* Pie island.....	J. Vernon.....	Mar. 9, 1912..	335 00
* Pigeon island.....	J. H. Davis.....	May 16, 1896..	660 00
Pins, Pointe aux (3 lights).....	A. McKinnon.....	May 16, 1904..	520 00
Peasant, point.....	S. C. Carson.....	April 18, 1913..	380 00
Porphyry, point, light and fog alarm.....	J. Bosquet.....	Aug. 11, 1908..	1,080 00
Portsmouth range.....	E. Graham.....	April 27, 1912..	230 00
Presqu'île, light and fog alarm.....	F. T. Cornwall, (lightkeeper).....	May 24, 1912..	380 00
	H. C. McColl, (engineer).....	Feb. 27, 1914..	600 00
* Providence bay.....	T. E. Ellis.....	June 15, 1912..	335 00
Rains wharf.....	W. W. Rains.....	Aug. — 1892..	140 00
Rainy river.....	P. O'Connor.....	July 27, 1904..	395 00
Red Horse rock.....			
Spectacle shoal.....	A. Meggs.....	May 24, 1912..	395 00
* Red rock, light and fog alarm.....	A. Brown.....	June 2, 1909..	880 00
Richards landing.....	J. Burnside.....	April 3, 1912..	85 00
Robert, Cape.....	N. Matheson.....	Oct. 7, 1896..	440 00
* Rondeau, range.....	J. Claus.....	Oct. 30, 1913..	440 00
Rousseau.....	J. G. Dixon.....	July 21, 1890..	180 00
Sailors Encampment, range.....	A. M. Rains.....	Aug. — 1892..	180 00
* St. Anicet.....	D. McKillop.....	June 8, 1892..	380 00
Sand point.....	P. McLean.....	May 1, 1909..	100 00
Saugeen, range.....	A. McAulay.....	Aug. 30, 1909..	220 00
* Scotch Bonnet.....	B. Y. Cunningham.....	May 9, 1912..	460 00
* Shaganash.....	W. Fairael.....	May 24, 1912..	335 00
Sheguiandah, range.....	J. Heis.....	April 12, 1912..	150 00

* \$25 for operating fog horn or bell

5 GEORGE V., A. 1915

STATEMENT of lightstations and names of lightkeepers, etc.—*Continued.*ONTARIO—*Concluded.*

Name of Station.	Name of Lighthouse.	Appointed.	Salary.	
			\$	cts.
*Snoal island	J. L. McCluskie	Sept. 11, 1909	380	00
Silver islet, range	J. Cross	May 18, 1905	180	00
*Sister rock, west	J. Thibault	Dec. 6, 1905	520	00
Slate islands	A. B. Sutherland	July 21, 1908	680	00
*Snake island	C. V. Sudds	Mar. 16, 1912	275	00
Southampton	J. Brown	June 29, 1904	260	00
South Bay point	W. Hudgins	June 15, 1912	275	00
South East bay	T. Darling	Jan. 31, 1891	140	00
South river	F. Baechler	July 2, 1903	180	00
Squaw island	W. H. Boucha	Oct. 30, 1913	275	00
Stag island	T. M. Cowan	Nov. 3, 1903	260	00
Stanley, Port, light and fog alarm	J. L. Oliver	Jan. 8, 1908	600	00
Stanley, Port, beacon	J. L. Oliver	Aug. 6, 1909	50	00
Stokes bay, range	J. McIver	Oct. 30, 1913	380	00
*Strawberry island	W. McKenzie	May 4, 1893	440	00
Stribling point, range	J. Hicks	April 10, 1912	275	00
Sulphur island	W. Birch	Aug. 1, 1910	425	00
Supple point	C. J. Kelly	Oct. 6, 1909	180	00
Telegraph island	M. Benn	Dec. 10, 1912	275	00
Thames island, range	H. J. Cartier	Oct. 19, 1884	520	00
*Thessalon	J. Harvey	Nov. 23, 1897	440	00
Thornbury, range	R. Lowe	April 12, 1887	140	00
Thunder cape, light and fog alarm	T. Craig	Nov. 27, 1913	980	00
*Tobermory	J. H. Smith	April 10, 1912	275	00
Tomahawk island	T. Sweeney	Sept. 19, 1902	320	00
Toronto, east pier, lights and fog alarm	G. McKelvie	Aug. 1, 1907	1,180	00
*Toronto, west entrance	F. Ward	Sept. 28, 1912	395	00
Trenton, range	J. A. McHenry	June 5, 1912	190	00
Victoria harbour, range	R. Belcher	Aug. 5, 1912	190	00
*Victoria island	F. Woodward	May 22, 1913	440	00
Wabi river	M. G. Hansman (temporary)		275	00
Welcome islands, light and fog alarm	Geo. Cosgrave	April 30, 1913	980	00
Western islands, light and fog alarm	E. Smith	Aug. 25, 1913	1,080	00
Whitby	R. Goldring	Dec. 2, 1911	200	00
Warton	E. Shackleton	Aug. 13, 1913	80	00
Wilson channel, range	Mrs. J. L. Bamford (temporary)		395	00
Wolfe island	W. Gillespie	Mar. 16, 1885	320	00

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*Black Bear island	D. Matheson	June 22, 1899	380	00
*Cox Reef	A. Anderson	June 2, 1913	440	00
*George island	E. Arrason	Aug. 26, 1912	460	00
Gimli	K. Samundsson	April 9, 1912	85	00
*Gull harbour	T. Fjeldsted	May 6, 1904	320	00
Red river range	Wm. Hughes	Feb. 12, 1892	520	00
Warren Landing ranges	H. McDonald	Sept. 14, 1907	520	00

BRITISH COLUMBIA.

Active pass, light and fog alarm	H. Georgeson	July 21, 1884	1,470	00
Alberni	W. A. McIntosh	Aug. 25, 1913	180	00
Amphitrite point	G. W. Grant	Feb. 28, 1907	390	00
Atkinson point, light and fog alarm	T. D. Grafton	April 9, 1910	1,432	50
Ballenas islands, light and fog alarm	A. B. Gurney	Dec. 10, 1912	1,170	00
Bare point	J. C. Chalmers	Aug. 5, 1912	285	00
Beale cape, light and fog alarm	Harold Ward	Jan. 28, 1914	1,470	00

*25 for operating fog horn or bell.

SESSIONAL PAPER No. 21

STATEMENT of lightstations and names of lightkeepers, etc.—*Concluded.*
BRITISH COLUMBIA—*Concluded.*

Name of Station.	Name of Lighthouse.	Appointed.	Salary.
			\$ cts.
*Berens island	W. H. Harrison	Oct. 29, 1912	412 50
Birnie island	G. Rudge	June 30, 1906	390 00
*Brockton point	W. D. Jones	Aug. 20, 1890	570 00
Carmanah, light and fog alarm	R. S. Daykin	Dec. 8, 1913	1,545 00
Crofton	H. Carter	Jan. 10, 1913	225 00
Denman island	H. Piercy	May 16, 1911	525 00
Discovery island, light and fog alarm	M. A. Croft	April 1, 1902	1,470 00
*Dryad point	C. Carpenter	Dec. 4, 1899	480 00
Egg island light and fog alarm	L. D. B. Drummond	Oct. 30, 1913	1,470 00
Entrance island, light and fog alarm	W. E. Morrissey	June 2, 1913	1,320 00
Estevan point, light and fog alarm	J. P. Jensen	May 27, 1910	2,000 00
*Fiddle reef	D. H. McNeil	Mar. 21, 1905	570 00
First narrows light and fog alarm	G. A. Harris	June 25, 1913	1,320 00
Fisgard	J. Goose	Oct. 13, 1909	570 00
Fraser river, North arm range	T. J. Thomas	Mar. 21, 1913	330 00
Fraser river and Garry point	A. A. Parker	Oct. 14, 1907	570 00
Fraser river lightship	M. O'Brien	Sept. 26, 1906	1,620 00
Gallows point fog bell	Western Fuel Co.	June 8, 1906	120 00
Green island	A. Dingwall	Feb. 11, 1911	1,395 00
Helen point fog bell	D. Tom	Mar. 2, 1910	240 00
Holland rock light and fog alarm	J. E. Gibson	Jan. 25, 1913	1,320 00
Ivory island light and fog alarm	F. Reuter	May 2, 1905	1,170 00
Kaslo	Kootenay Electric Co.		240 00
Kootenay lake, west arm	C. W. Burke		900 00
Kootenay lake, west arm	H. A. Master		900 00
Kootenay Landing	Canadian Pacific Ry. Co.	Apr. 10, 1909	120 00
Kootenay ranges	B. F. Merritt		360 00
Langara, light and fog alarm	J. Forsyth	Oct. 30, 1913	2,000 00
Lardo	Canadian Pacific Ry. Co.	Mar. 19, 1910	120 00
Lawyer islands light and fog alarm	F. W. B. Elsterman	Oct. 26, 1905	780 00
Lennard island	R. Pollock	July 21, 1908	2,000 00
Lookout island	A. Ellis	Dec. 1, 1906	390 00
*Lucy island	T. S. O. Ouellette	July 6, 1910	750 00
Masset range	Henry Weah	Sept. 5, 1913	390 00
Merry island	W. T. Franklin	Jan. 8, 1904	570 00
Meares spit	R. Riley		200 00
McCormick point	O. B. Ballard		216 00
McLoughlin point fog alarm	W. P. Daykin	July 4, 1912	1,470 00
Mudge, cape light and fog alarm	J. Davidson	June 27, 1898	1,170 00
Nanaimo harbour	H. B. Shaw	June 4, 1907	330 00
Needles point	F. B. Lucas		228 00
Nootka	H. T. W. Smith	Feb. 11, 1911	525 00
Pachena light and fog alarm	R. Clarke	Apr. 8, 1913	1,700 00
Patey rock	H. Moore	Jan. 27, 1911	255 00
Pilot bay	E. Montreuil	Dec. 10, 1907	570 00
Pine island light and fog alarm	D. B. McPhee	Jan. 7, 1913	1,545 00
*Pointer island	J. Codville	Oct. 24, 1900	570 00
*Porlier pass range	F. F. Allison	Apr. 14, 1903	660 00
*Portlock point	G. A. Watson	Apr. 12, 1911	525 00
Proctor range	J. W. Gallop	Apr. 20, 1900	600 00
*Prospect point	J. Grove	July 7, 1898	570 00
*Pulteney point	T. Aro	Nov. 14, 1913	480 00
*Quatsino	N. C. Nelson	Dec. 6, 1910	570 00
Race rocks light and fog alarm	F. M. Eastwood	Jan. 31, 1891	1,770 00
St. James, cape	Taylor Ash	Jan. 28, 1914	1,320 00
Saturna island	J. Georgeson	Oct. 26, 1889	900 00
*Scarlett point	W. Hunt	Sept. 24, 1908	570 00
Sheringham point	E. T. Arden	Aug. 30, 1912	1,357 50
Silverton	Denver Light & Power Co.		24 00
Sisters light and fog alarm	T. C. L. Hayllar	Dec. 10, 1912	1,057 50
Stubbs spit	R. Riley		200 00
Swale rock	J. C. Anderson	May 2, 1912	210 00
Trial island light and fog alarm	H. S. O'Kell	Oct. 24, 1906	1,470 00
Triangle island	T. Watkins	Mar. 28, 1913	1,320 00
Whiffen spit	P. H. Stuhr	Aug. 12, 1913	180 00
Wilson point	J. A. Irwin		120 00
Victoria harbour beacons	T. Sparks	Jan. 1, 1903	390 00
Yellow island lights and fog alarm	J. Doney	Feb. 6, 1906	1,170 00

\$37.50 for operating fog horn or bell.

Enclosure No. 3.

STATEMENT showing complete list of stations at which gas buoys were in operation throughout the Dominion.

UNDER THE NOVA SCOTIA AGENCY—DISTRICT No. 1.

Station No.	Name of Station.	Description of Buoy.
24	Pubnico	Gas and whistling.
27	Cape Sable, southwest ledge	"
29	Brazil Rock	"
31	Shelburne	"
35	Lockeport	"
36	Laurier rock	Gas and bell.
37	Little Hope	Gas and whistling.
39	Liverpool	"
40	Liverpool fairway	Gas and bell.
45	Lahave	"
48	Lunenburg	Gas and whistling.
49	Lunenburg, east point ledge	Gas and bell.
54	North east shoal	Gas and whistling.
60	Sambro	"
61	Outer Automatic, Halifax harbour	"
62	Inner Automatic, Halifax harbour	"
63	Neverfail, Halifax harbour	Gas.
65	Thrumcap	Gas and bell.
67	Middle Ground, Halifax harbour	Gas.
68	Leopard shoal	"
69	Shut-in-island	Gas and bell.
70	Egg island	Gas and whistling.
72	Sheet harbour	"
76	Liscomb	"
80	Isaac harbour	"
84	Whitehead	"
86	Canso or Grime shoal	"
90	Cerberus rock	"
94	Petitdegrat	Gas and bell.
100	Guion island	Gas and whistling.
102	Louisburg	"
108	Flat point	"
110	Cran rock	Gas and bell.
112	North-west bar, Sydney harbour	Gas.
117	Seal reefs	"
130	Skinner reef	"

UNDER THE NEW BRUNSWICK AGENCY—DISTRICT No. 2.

4-S.	Blonde rock	Gas and whistling.
6-S.	South-west fairway, Yarmouth	"
8-S.	Cape Fourchu	"
10-S.	Hen-and-chickens, Yarmouth	Gas and bell.
12-S.	South west ledge, Brier island	Gas and whistling.
14-S.	North west ledge, Brier island	"
16-S.	Avon river	Gas.
3	Old Proprietor	Gas and whistling.
5	North Wolves	"
7	Lepreau	"
9	Black point	"
18	Foul ground, St. John harbour	Gas.
20	Quaco ledge	Gas and whistling.
22	Trinity ledge	"
24	Letite passage	Gas and bell.
28	Maquacha spit, Restigouche river	Gas.
31	Scaumenac, Restigouche river	"
32	Point Lanin, Restigouche river	"
34	Garde pointe, Restigouche river	"
36	Oak point, Restigouche river	"
38	Traverse, Restigouche river	"
40	Busteed, Restigouche river	"
42	Horseshoe bar east, Miramichi	"
44	Horseshoe bar west, Miramichi river	"
46	Carquet harbour, east	"
47	Carquet harbour, west	"

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STATEMENT showing complete list of stations at which gas buoys were in operation throughout the Dominion.—*Continued.*

UNDER THE PRINCE EDWARD ISLAND AGENCY—DISTRICT No. 3.

Station No.	Name of Station.	Description of Buoy.
1	Indian Rocks	Gas and whistling.
2	Point Prim	"
3	Fitzroy rock	"
4	West point	"
5	Mischouche shoal	"
6	Zephyr rock, Shediac bay, N.B.	Gas.

UNDER THE QUEBEC AGENCY—DISTRICT No. 4.

21 -B.	Matane	Gas and bell.
22 -B.	Manikuanagan point	Gas and whistle.
25 -B.	Cock point	Gas.
27 -B.	Father point	"
29 -B.	Rimouski road	"
38 -B.	Barrett ledge	Gas and bell.
51 -B.	Pilgrim shoal	"
56 -B.	Traverse, middle ground	Gas.
57 -B.	Lower Traverse	"
58 -B.	South Traverse, middle ground	"
59 -B.	Lower Traverse	"
60 -B.	Upper Traverse	"
61 -B.	St. Roch shoals	"
62 -B.	Channel patch, northeast	"
64 -B.	Channel patch	Gas and bell.
65 -B.	Port Joli	Gas.
66 -B.	Goose island reef	"
67 -B.	Beaujeu bank, northeast extremity ..	Gas and bell.
69 -B.	" west end	"
69½ -B.	" channel	"
70 -B.	" bank, west end	"
71 -B.	St. Thomas channel, south side	"
72 -B.	" " north side	"
73 -B.	" " south side	"
73½ -B.	" " southeast end	"
74 -B.	" " northeast end	"
75 -B.	" " south side	"
76 -B.	" " north side	"
77 -B.	"	Gas.
78½ -B.	"	"
78½ -B.	"	"
79 -B.	Wye rock	"
80 -B.	Grosse île	"
84 -B.	Empress shoal	"
86 -B.	Madame island reef	"
87 -B.	Beaumont reef	"
89 -B.	Point Lévis	"
96 -B.	Lark reef, south end	"
102 -B.	Morin shoal	"
106 -B.	Grande pointe	"
108 -B.	Longue pointe	"
110 -B.	Eastern narrows, north traverse	"
113 -B.	Traverse spit	"
138 -B.	Beauport flats	"
140 -B.	St. Charles river	"
10 -Q.	Fly bank	"
15 -Q.	Point Nicholas	"
23 -Q.	St. Antoine, middle ground	"
24 -Q.	Pointe aux Trembles	"
28 -Q.	Pointe St. Antoine	"
34 -Q.	Ste. Croix	"
36 -Q.	Ste. Croix bar	"
44 -Q.	Cap Santé	"
49 -Q.	Pointe Platon	"

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STATEMENT showing complete list of stations at which gas buoys were in operation throughout the Dominion.—*Continued.*

MONTREAL DIVISION—DISTRICT No. 5.

Station No.	Name of Station.	Description of Buoy.
52-Q.	Portneuf.....	Gas.....
63-Q.	Ilet Mayrand.....	"
68-Q.	Batture Simon.....	"
73-Q.	Batture-du-Chêne.....	"
75-Q.	Batture-à-Cadieux.....	"
78-Q.	Cape Charles.....	"
90-Q.	Cap à la Roche curve.....	"
92-Q.	Cap à la Roche.....	"
97-Q.	Upper Cap à la Roche.....	"
105-Q.	Cap Levraud.....	"
110-Q.	".....	"
115-Q.	Batiscan course.....	"
117-Q.	".....	"
119-Q.	Batture St. Pierre.....	"
123-Q.	Batiscan anchorage.....	"
129-Q.	Batture Perron.....	"
2-C.	Pointe Citrouille.....	"
15-C.	Poulier Carpentier.....	"
20-C.	Ile Bigot.....	"
23-C.	Becancour, lower traverse.....	"
30-C.	Becancour bend.....	"
39-C.	Becancour, upper traverse.....	"
43-C.	Cap Madeleine.....	"
55-C.	Ile aux Cochons.....	"
59-C.	Three Rivers shoal.....	"
4-L.	Poulier Laforce.....	"
9-L.	English bank.....	"
13-L.	Curve No. 3.....	"
17-L.	" 3.....	"
21-L.	" 3.....	"
22-L.	" 3.....	"
25-L.	" 3.....	"
35-L.	Pointe du Lac course.....	"
47-L.	".....	"
57-L.	Yamachiche bend.....	"
58-L.	".....	"
67-L.	Curve No. 2 to White Buoy.....	"
79-L.	".....	"
85-L.	".....	"
91-L.	Curve No. 1 to Curve No. 2.....	"
97-L.	".....	"
100-L.	".....	"
103-L.	".....	"
111-L.	Ile aux Raisins.....	"
123-L.	Pointe aux Soldats.....	"
136-L.	Ile de Grace.....	"
146-L.	Nepigon shoal.....	"
1-M.	Ile aux Foins.....	"
5-M.	St. Ours traverse.....	"
16-M.	Bellmouth curve.....	"
20-M.	".....	"
24-M.	".....	"
31-M.	Contrecoeur bend.....	"
45-M.	" junction.....	"
82-M.	Plum island.....	"
89-M.	Verchères.....	"
103-M.	Poulier des Trois Bouées.....	"
117-M.	Cap St. Michel.....	"
124-M.	Ile des Lauriers.....	"
129-M.	Varenes curve.....	"
133-M.	".....	"
141-M.	".....	"
149-M.	Pointe aux Trembles bend.....	"
157-M.	"..... curve.....	"
167-M.	".....	"
174-M.	Longue Pointe.....	"

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STATEMENT showing complete list of stations at which gas buoys were in operation throughout the Dominion.—*Continued.*

MONTREAL DIVISION—DISTRICT No. 6—*Continued.*

Station No.	Name of Station.	Description of Buoy.
175-M.	Longue Pointe, above.....	Gas.
177-M.	Poulier à Gagnon.....	"
181-M.	Longueuil.....	"
191-M.	".....	"
193-M.	".....	"
194-M.	Maisonneuve.....	"
195-M.	Ile Ronde.....	"
196-M.	Longueuil.....	"
201-M.	Montreal harbour.....	"

PRESCOTT—DISTRICT No. 6.

16-S.	Four-fifth mile above Lachine.....	Gas.
38-S.	Lachine cut, upper entrance.....	"
48-S.	East of Lightship No. 2.....	"
53-S.	Off Browns point.....	"
76-S.	Between Light No. 2 and Light No. 3.....	"
86-S.	Between top light and Ile Perrot.....	"
98-S.	Windmill point.....	"
100-S.	Entrance to Soulanges canal, east.....	"
102-S.	".....	"
104-S.	Soulanges canal, east.....	"
25-F.	Grosse point.....	"
30-F.	Soulanges canal, entrance.....	"
36-F.	Coteau Landing.....	"
40-F.	Hay point.....	"
43-F.	West end of middle ground.....	"
46-F.	Port Lewis.....	"
48-F.	Pointe Mouillé flats.....	"
64-F.	Lancaster.....	"
68-F.	Island bank.....	"
69-F.	East Lancaster bar.....	"
76-F.	Lancaster bar.....	"
78-F.	Squaw island.....	"
83-F.	Renshaw island.....	"
84-F.	Clarks island.....	"
87-F.	Grass island.....	"
96-F.	St. Regis dyke, west end.....	"
6-U.	Delaney shoal.....	"
8-U.	Archibald shoal.....	"
40-U.	Farran point.....	"
54-U.	Prunner shoal.....	"
72-U.	Jackass shoal.....	"
127-U.	Dixon island.....	"
138-U.	Upper entrance, Iroquois canal.....	"
4-T.	Hillcrest.....	"
6-T.	Cole shoal, middle ground.....	"
7-T.	Deer island.....	"
12-T.	Gananoque narrows.....	"
38-T.	Wolfe island.....	"
46-T.	Cold Bath shoal.....	"
61-T.	Penitentiary shoal.....	"
69-T.	West end of middle ground between Snake island and Seven Acre shoal.....	"
89-T.	Forester island.....	"
102-T.	Northport shoal.....	"
106-T.	Minnie Blakely shoal.....	"
110-T.	Trenton.....	"
121-T.	Salt point.....	"

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STATEMENT showing complete list of stations at which gas buoys were in operation throughout the Dominion.—*Continued.*

ONTARIO DIVISION—LAKE ONTARIO—DISTRICT No. 7.

Station No.	Name of Station.	Description of Buoy.
1	Niagara.....	Gas and bell

LAKE ERIE—DISTRICT No. 8.

6	Grub reef.....	Gas.
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DETROIT RIVER—DISTRICT No. 9.

13-D.	Bar Point channel.....	Gas.
14-D.	".....	"
23-D.	".....	"
24-D.	".....	"
32-D.	".....	"
38-D.	Hackett reach.....	"
67-D.	Limekiln crossing.....	"
68-D.	".....	"
73-D.	".....	"
74-D.	".....	"
79-D.	Ballard reef channel.....	"
80-D.	".....	"
81-D.	".....	"
82-D.	".....	"
83-D.	".....	"
84-D.	".....	"
90-D.	South end Fighting island.....	"

THAMES RIVER DISTRICT No. 11.

1	Thames river.....	Gas.
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ST. CLAIR RIVER—DISTRICT No. 12.

1	Courtwright.....	Gas.
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SOUTHAMPTON—DISTRICT No. 15.

4	Chantry island, north.....	Gas.
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GEORGIAN BAY—DISTRICT No. 16.

Cove island.....	Gas and whistling.
Vails point.....	Gas and bell.
Hooper island.....	Gas.
Middle ground.....	"
Three Star shoal.....	"
Seguin bank.....	Gas and whistling.
Lone rock.....	"
Lockerbie rock.....	Gas.
Surprise shoal.....	Gas, whistling and bell.
Kennedy bank.....	Gas.
Lottie Wolf Shoal.....	"
Bennett bank.....	"
Port McNicoll.....	"
Maganatawan ledges.....	"
Entrance Key inlet.....	"
Murray Bend inlet.....	"
Keefer Bend inlet.....	"
Digsby inlet.....	"
Mann Reef inlet.....	"
Inside Reef inlet.....	"

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STATEMENT showing complete list of stations at which gas buoys were in operation throughout the Dominion.—*Continued.*

ONTARIO DIVISION—STURGEON RIVER—DISTRICT No. 17.

Station No.	Name of Station.	Description of Buoy.
1-N.	Sturgeon bar	Gas.

SAULT STE. MARIE—DISTRICT No. 18.

1	Vidal shoal, north side, upper end	Gas.
2	Vidal shoal, south side, upper end	"
3	Vidal shoal, north side, lower end	"
4	Upper entrance, south side	"
5	Upper entrance, north side	"
7	Lower entrance, north side	"
8	Pancake shoal	" and bell.

PORT ARTHUR—DISTRICT No. 19.

1	Port Arthur	Gas.
2	Southeast dredged channel, Fort William	" and bell.
3	Northeast " "	"
4	Hare island reef. "	Gas and bell.
6	Thunder Bay channel	"

BRITISH COLUMBIA DIVISION—DISTRICT No. 24.

1	Lookout island	Gas beacon.
2	Kyuquot	Gas and whistling.
18	Channel rocks	"
19	San Juan	"
23	Lewis reef	Gas beacon.
24	Kelp reef	"
25	Dock island	"
25-A.	Sananns island	"
26	Canoe rock	"
27	Helen point	"
28	Mary Ann point	"
29	Walker rock	"
30	Coffin islet	"
31	Danger reef	"
32	Joan point	"
33	Gabriola reef	"
35	Roberts bank	Gas and whistling.
36	Grey point	Gas and bell.
37	First narrows, Vancouver harbour	Gas beacon.
40	Seechelt	"
42	Gallows point, Nanaimo harbour	"
43	West rocks	"
44	Goose spit	"
45	Kelp bar	Gas and bell.
47	Oyster bay	"
49	Lund	Gas beacon.
50	Cortez island	Gas and bell.
52	Gillard island	Gas beacon.
53	Maud island	"
54	Chatham point	"
55	Green point	"
56	Helmcken island	"
57	Boat harbour	"
58	Haddington reef	Gas.

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STATEMENT showing complete list of stations at which gas buoys were in operation throughout the Dominion.—*Concluded.*

BRITISH COLUMBIA DIVISION—DISTRICT No. 24.—*Concluded.*

Station No.	Name of Station.	Description of Buoy.
60	Crane island.....	Gas beacon.
64	Zero rock.....	"
67	Fog rocks.....	"
69	Camp island.....	"
70	Dall patch.....	Gas and whistling.
72	Vancouver rock.....	"
73	Jorkins point.....	Gas beacon.
74	Boat bluff.....	"
76	Separation point.....	"
84	Klewnuggit.....	"
85	Connis island.....	"
86	Watson rock.....	"
87	Herbert reef.....	"
88	Marked tree bluff, Kennedy island.....	"
92	Casey point.....	Gas.
93	Georgia rock.....	Gas and bell.
94	Spire ledge.....	Gas.
95	Barret rock.....	Gas and bell.
96	Coast island.....	Gas beacon.
97	Ridley island.....	"
101	Alford rock.....	Gas.
103	Hodgson reef.....	Gas and whistling.
105	Pointers.....	Gas beacon.
107	Browning entrance.....	Gas and whistling.
109	Dead Tree point.....	Gas.
110	Lawn point, Skidegate.....	Gas and bell.
111	Low island.....	Gas beacon.
112	Copper island.....	"
114	Koya point.....	"
116	Rose spit.....	"
118	Tripple island.....	"
120	Aiskew island.....	"

(Enclosure No. 4).

STATEMENT showing new buoys and beacons established during the fiscal year 1913-14

Nova Scotia—

Laurier rock.....	Gas and bell.
Shutin island.....	" "
Cran rock.....	" "

New Brunswick—

Trinity ledge.....	Gas and whistle.
Letite passage.....	" bell.

Quebec—

22-B Manikuanagan point.....	Gas and whistle.
59-B Upper Traverse.....	Gas.
61-B St. Roch shoals.....	"
103-B Long point.....	"
113-B Traverse spit.....	"
140-B St. Charles river.....	"
23-Q St. Antoine.....	"

Montreal—

63-Q Het Mayrand.....	Gas.
175-M Above Longue pointe.....	"

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STATEMENT showing new buoys and beacons established during the fiscal year
1913-14—*Concluded*.

Prescott—

7-T Deer island.. . . .	Gas.
89-T Foresters island.. . . .	"
121-T Salt point.. . . .	"

Perry Sound—

Port McNicoll.. . . .	Gas.
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Sault Ste. Marie—

Lower entrance.. . . .	Gas.
Pancake shoal.. . . .	Gas and bell.

Port Arthur—

Thunder Bay channel.. . . .	Gas.
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British Columbia—

Channel rocks.. . . .	Gas and whistle
Sananus island.. . . .	Gas beacon.
Green point.. . . .	" "
Dead Tree point.. . . .	Gas buoy.
Rose spit.. . . .	Gas beacon.
Tripple island.. . . .	" "
Aiskew island.. . . .	" "

(Enclosure No. 5).

STATEMENT, by localities, giving the number of unlighted buoys, stakes and bushes, etc.,
maintained throughout the Dominion.

NEW BRUNSWICK DISTRICT.

Name of locality; and No. of stakes, bushes, etc.	No. of Buoys.	Name of locality; and No. of stakes, bushes, etc.	No. of Buoys.
Aldouane, 25 bushes.. . . .	5	Miramichi river, Black brook.. . . .	3
Alma.. . . .	2	Miramichi river, southwest branch.. . . .	9
Baie Verte and Port Elgin, 30 stakes.. . . .	6	Miramichi river, northwest branch.. . . .	10
Bartibog, 12 bushes.. . . .	1	Miscou.. . . .	8
Bathurst.. . . .	26	Musquash.. . . .	4
Baie du Vir.. . . .	13	Neguac.. . . .	19
Beaver and Black harbours.. . . .	8	Napan river, 24 stakes.. . . .	3
Buctouche, 34 stakes.. . . .	22	Petit Rocher.. . . .	1
Buctouche river, 260 bushes.. . . .		Pisarinco.. . . .	2
Campobello.. . . .	10	Pokemouche, bushes.. . . .	6
Caraquet.. . . .	15	Richibucto and Albion.. . . .	35
Caraquet to Mizzenette.. . . .	3	Richibucto, Rexton and Browns yard.. . . .	30
Chance harbour.. . . .	2	Salmon river, bushing.. . . .	15
Cocagne, 30 stakes.. . . .	11	Scotchtown.. . . .	6
Dalhousie and Restigouche.. . . .	10	Shampers wharf, 15 stakes.. . . .	
Digdequash.. . . .	5	Shediac.. . . .	19
Dipper harbour.. . . .	4	St. Andrews, 3 stakes.. . . .	16
Dorchester.. . . .	3	Shippigan, 17 pickets, 14 stakes.. . . .	20
Grande Anse.. . . .	4	St. John river, 154 stakes.. . . .	73
Grande Digue, 30 stakes.. . . .	2	St. Louis, 35 bushes.. . . .	9
Grand lake, bushes.. . . .	32	St. Simon bay.. . . .	4
Grand Manan, 1 spindle.. . . .	28	Tabusintac.. . . .	20
Grassy island, 18 stakes.. . . .	7	Tracadie, north gully, 100 bushes.. . . .	12
Great Shemogue.. . . .	7	Tracadie, south gully, 30 bushes.. . . .	5
Hatfield point, number of bushes.. . . .		Tynemouth creek.. . . .	4
Indian Point Bar channel, 10 bushes.. . . .	3	Washadamoak, 144 bushes.. . . .	2
Kouchibouguac and Black Lands gully, bushes.. . . .	12	Waweig river.. . . .	2
Letite, L'Etang and Bliss harbour.. . . .	14	West isles, 4 spindles.. . . .	23
Little Shemogue, 2 poles.. . . .	5	Maintained by agency—	
Little Shippigan.. . . .	3	Bell buoys.. . . .	23
Magaguadavic.. . . .	13	Whistling buoys.. . . .	7
Maquapit and French lakes, 17 stakes.. . . .	8	Conical and can buoys.. . . .	48
Miramichi bay and river, bushes.. . . .	37	Spar buoys.. . . .	38

STATEMENT, by localities, giving the number of unlighted buoys, stakes, etc.—*Con.*

NOVA SCOTIA DISTRICT.

Name of locality; and No. of stakes, bushes, etc.	No. of Buoys.	Name of locality; and No. of stakes, bushes, etc.	No. of Buoys.
Advocate harbour.. . . .	6	Bear river.. . . .	8
Amherst basin.. . . .	4	Beaver harbour, 8 winter buoys.. . . .	8
Apple river.. . . .	8	Beaver narrows, C.B.. . . .	2
Ardoise.. . . .	5	Blandford.. . . .	5
Arichat.. . . .	20	Bridgewater.. . . .	7
Argyle river and sound.. . . .	10	Brule, 5 stakes.. . . .	4
Avon river.. . . .	5	Calf island bay.. . . .	5
Barrington, 11 dolphins.. . . .	40	Canning or Habitant river, 6 dolphins.	
Canso and St. Andrew passage, 20 win- ter buoys.. . . .	26	Neil harbour.. . . .	1
Cape Negro or Northeast harbour.. . .	17	Northport.. . . .	12
Caribou.. . . .	6	North Sydney.. . . .	5
Chester and Gold river.. . . .	29	Orangedale.. . . .	3
Cheticamp.. . . .	12	Parrsboro.. . . .	6
Chezzecook and Petpeswick.. . . .	10	Pennant harbour.. . . .	9
Christmas island and Barra strait.. . .	11	Petitdegrat, 6 winter buoys.. . . .	13
Clarke harbour.. . . .	17	Pictou.. . . .	10
Cockerwit pass.. . . .	19	Pope harbour.. . . .	1
Coddle harbour.. . . .	6	Port Bickerton, 3 winter buoys.. . . .	5
Cooks cove (Toby cove).. . . .	4	Port Felix, 1 stake.. . . .	11
Crooked channel.. . . .	5	Port l'Hébert.. . . .	13
Crow harbour.. . . .	3	Port Hood, 2 winter buoys.. . . .	5
Denny river.. . . .	3	Port Latour.. . . .	16
D'Escousse and Lennox passage.. . . .	29	Port Medway.. . . .	4
Digby and Annapolis, 5 winter buoys..	14	Port Morien.. . . .	2
Dover.. . . .	4	Port Mouton.. . . .	9
East bay, Bras d'Or.. . . .	5	Port Philip.. . . .	12
East Dover.. . . .	4	Pringle harbour.. . . .	3
Eskasoni.. . . .	4	Pubnico.. . . .	21
Fourchu harbour.. . . .	11	Pugwash.. . . .	9
Freeport, 1 beacon.. . . .	3	River John, stakes.. . . .	3
French village, St. Margaret bay.. . .	5	Roseway.. . . .	5
Gegoggin.. . . .	7	St. Anns.. . . .	10
Gillis point, Boulacet.. . . .	1	St. Mary river, winter buoys.. . . .	9
Glace bay.. . . .	4	St. Mary river to Sherbrooke.. . . .	18
Goose bay, 35 stakes.. . . .	8	St. Peter bay, 4 winter buoys.. . . .	16
Great Bras d'Or.. . . .	7	St. Peter inlet.. . . .	10
Guysborough.. . . .	5	Sambro.. . . .	15
Havre Bouché, 6 stakes.. . . .	4	Shad bay.. . . .	4
Indian harbour.. . . .	4	Shag harbour.. . . .	17
Ingonish, South bay.. . . .	9	Shelburne.. . . .	25
Isaac harbour, 9 winter buoys.. . . .	13	Sheet harbour, 5 winter buoys.. . . .	9
Jeddore, winter buoys.. . . .	9	Ship harbour (Lower), 6 winter buoys.	11
Johnson harbour.. . . .	5	Ship rock, strait of Canso.. . . .	1
Judique.. . . .	1	Shulee.. . . .	8
Ketch harbour.. . . .	6	Smith island.. . . .	1
Kieley cove, Blind bay.. . . .	4	Sober island to Ecum Secum.. . . .	22
Lahave.. . . .	6	Spry bay.. . . .	4
Larry river, 7 stakes.. . . .	3	Stoney island, Baddeck.. . . .	1
Liscomb.. . . .	6	Sydney inner harbour.. . . .	2
Little Bras d'Or.. . . .	12	Tancook island.. . . .	3
Little Dover.. . . .	9	Tangier, 7 winter buoys.. . . .	4
Little Narrows.. . . .	10	Tatamagouche, 46 stakes.. . . .	18
Liverpool.. . . .	10	Terence bay.. . . .	3
Lunenburg.. . . .	8	Three-Fathom harbour.. . . .	5
Lunenburg, back cove.. . . .	9	Tidnish, stakes.. . . .	5
Lunenburg, middle south, 6 winter buoys.. . . .	16	Torbay.. . . .	19
Louisburg, 3 winter buoys.. . . .	8	Tusket river.. . . .	9
Lower Prospect.. . . .	10	Tusket Wedge, 3 spindles.. . . .	17
Mabou, stakes.. . . .	19	Upper Prospect.. . . .	4
Margaree harbour, 2 stakes.. . . .	7	Volgers cove.. . . .	3
Mahone bay.. . . .	9	Wallace, 33 stakes.. . . .	11
Mainadieu.. . . .	5	Walton harbour.. . . .	1
Marble Mountain.. . . .	5	Washaback river.. . . .	1
Marie Joseph, 10 winter buoys.. . . .	16	West bay.. . . .	5
Martins brook.. . . .	6	West Chezzetcook.. . . .	7
McKinnon harbour.. . . .	6	West Dublin.. . . .	12
McNab cove.. . . .	2	Weymouth.. . . .	19
		Whitehaven, 5 winter buoys.. . . .	8
		Yarmouth, 38 bushes.. . . .	13

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STATEMENT, by localities, giving the number of unlighted buoys, stakes, etc.—*Con.*NOVA SCOTIA DISTRICT—*Concluded.*

Name of locality; and No. of stakes, bushes, etc.	No. of Buoys.	Name of locality; and No. of stakes, bushes, etc.	No. of Buoys.
McVarish shoal and Campbell point,		Maintained by agency—	
Bras d'Or	4	Bell buoys	42
Merigomish, bushes	6	Whistling buoys	16
Meteghan river	2	Conical and can buoys	68
Monseller, 4 stakes	6	Spherical buoys	3
Musquodoboit	7	Spar buoys	20

PRINCE EDWARD ISLAND DISTRICT.

Bay Fortune	3	Murray harbour, 24 stakes	37
Beach point	3	New London, stakes	11
Bedeque, stakes	4	North river, 14 stakes	3
Belle river	3	Orwell and Vernon river, 36 bushes, 3 beacons	3
Brae harbour	5	Pinette, bushes	8
Brudenell river	5	Port Hill	12
Cardigan, lower, 2 winter buoys	7	Pownall, 10 stakes	9
Cardigan, upper	20	Rollo bay	3
Casumpeque	16	Rustico	5
Covehead	3	Savage harbour	2
Crapaud, stakes	6	Souris	4
East river, stakes and bushes	12	St. Peter harbour, 6 stakes	5
Egmont bay, north, 16 stakes	7	Summerside, stakes	7
Egmont bay, south, 8 stakes	2	West point	2
Georgetown	19	West river, stakes	8
Goose and Palmer harbours	5	Wood island	4
Grand river, 1 beacon, bushes	12	Maintained by agency—	
Grand river, Lot 14	8	Bell buoys	4
Grand Tracadie	4	Whistling buoys	4
Little channel	3	Conical and can buoys	14
Malpeque	16	Spar buoys	9
Miminegash	6	Steel barrel	1
Montague, 10 stakes	7		

QUEBEC DISTRICT.

Anse à Beaufls	1	Magdalen islands, Amherst harbour	8
Anse aux Gascons	1	Magdalen islands, Grand Entry	17
Barachois de Malbaie	1	Magdalen islands, House harbour	11
Beauport	3	Maria	2
Bonaventure river	11	Matane	2
Cap Chat	1	Natashkwan	3
Cape Cove	1	New Richmond	3
Cap d'Espoir	1	North channel, island of Orleans	13
Carleton point	1	Nouvelle	2
Eschourie rock (Serpent reef)	1	Paspebiac	1
Fox river	1	Pentecost	1
Gaspé	6	Percé	2
Gros Cap-aux-Os	1	Point St. Peter	1
Lake St. John	14	Port Daniel	1
Lake St. John, Ashuapmouchuan river, 30 bushes	7	Restigouche river	12
Lake St. John, Mistassini river, 60 bushes	12	Ste. Anne river	1
Lake St. John, Peribonka river and Roberval, 35 bushes	16	St. Godfroy	1
Little river east	1	St. Michel	4
Little river west	1	St. Thomas de Montmagny	8
Magdalen islands	12	Saguenay river, vicinity of Chicoutimi	38
		Maintained by agency—	
		Conical and can buys	31

MONTREAL DISTRICT.

Lake Memphramagog	1	St. Maurice river, Grandes Piles et La tuque, land marks and buoys	
Richelieu river, above St. Johns	27	Maintained by agency—	
Richelieu river, Sorel to Chambly	37	Conical and can	43
Richelieu rapids, bushes		Spar buoys	28
Rivière des Prairies	11		

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STATEMENT, by localities, giving the number of unlighted buoys, stakes, etc.—*Con.*

ONTARIO DISTRICT.

Name of locality; and No. of stakes, bushes, etc.	No. of Buoys.	Name of locality; and No. of stakes, bushes, etc.	No. of Buoys.
Blind river.	5	River Thames.	7
Brule shoal, lake Superior.	1	Rondeau.	6
Burke shoal, lake Superior.	1	St. Clair river, chenal Ecarté.	1
Cache bay, lake Nipissing, 8 stakes.		St. Joseph channel, lake Huron, 6 winter buoys, 1 beacon.	18
Clapperton channel, 1 beacon.	9	Sault Ste. Marie canal approaches.	25
Detroit river.	25	South Baymouth.	4
Goderich.	5	Stokes bay.	6
Grand reef, lake Superior.	1	Saugeen river.	7
Kaministiquia river, Fort William, lake Superior.	15	Sturgeon river.	25
Lake Simcoe.	5	Timagami lake, 4 beacons.	31
Lake Superior, south eastern part.	7	Trent canal (maintained by dept. Railways and Canals number of buoys.	
Lake Timiskaming, bushes.	9	Victoria island, lake Superior.	3
Lake of the Woods.	264	Waubushene.	53
Little Current.	9	Warrens landing, lake Winnipeg.	12
Michipicoten.	6	Winnipeg river.	13
Midland.	6	Maintained by Parry Sound agency—	
Mutton island, lake Superior.	1	Bell buoys.	2
Niagara river mouth.	2	Conical buoy.	1
Orillia, 11 bushes.	8	Spar buoys.	112
Pembroke.	23	Maintained by Prescott agency—	
Penetanguishene.	10	Conical, can, spherical.	17
Point au Baril, 15 beacons.	4	Barrel buoys.	2
Port Arthur.	20	Spar buoys.	98
Port Rowan.	10		
Presqu'île bay, lake Ontario.	17		

BRITISH COLUMBIA DISTRICT.

Arrow lakes, Upper and Lower.	15	Maintained by agency—	
Coal harbour.	10	Bell buoys.	3
Fraser river.	25	Whistling buoys.	2
Kootenay lake, northwest arm.	11	Conical and can buoys.	48
South Thompson river, 4 day beacons.	18	Platform buoys.	34
		Spar buoys.	50

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APPENDIX No. 3.

RIVER ST. LAWRENCE SHIP CHANNEL.

OTTAWA, August 3, 1914.

The Deputy Minister of Marine and Fisheries,
Ottawa, Ont.

SIR,—I have the honour to present the following annual report on the operations for the improvements of the River St. Lawrence Ship Channel during the fiscal year ending March 31, 1914.

I have the honour to be, sir,
Yours obediently,

V. W. FORNERET, B.A.Sc.,
Superintending Engineer.

HISTORY OF THE SHIP CHANNEL.

The St. Lawrence, owing to its situation, is the natural route from the Atlantic to the northern and northwestern half of the North American continent.

The opening of the Lachine canal, connecting Montreal with the Great Lakes, in 1825, established the route commercially.

The light-draught sailing vessels could then reach Montreal without trouble, except during a few weeks in the autumn, when they resorted to lightering.

In 1844, it was in an effort to give navigation up to Montreal for vessels of 500 tons, that the first work of dredging was undertaken.

The first proposals for improvements were discussed in 1825, the national character of the work being then recognized. Surveys were made and reported upon in 1831 and again in 1838.

In 1841, during an investigation, the committee proposed a tonnage duty sufficient to provide for the cost of the improved channel, which was considered would be less than that of lighterage. It was, however, agreed that in order to draw produce of the west down the St. Lawrence it was expedient to make the transit charges as light as possible.

Operations were commenced by the "Board of Works" in 1844 and continued until 1847 when, owing to opposition as to the location of the channel, in lake St. Peter, the work was abandoned.

After sixty years it is now considered that the straight channel as commenced would have been preferable in many ways.

In 1850, the harbour commissioners of Montreal proposed that they could do the work more economically and expeditiously. They asked for authority to undertake the work and to charge a tonnage duty to pay for the 8 per cent interest and 2 per cent sinking fund.

This plan was adopted in August, 1850, and the commissioners were authorized to proceed in such a manner as they should deem best, the Government plant being transferred to them.

The harbour commissioners, after examination and the best advice obtainable, adopted the location of the deepest natural channel in lake St. Peter. This results in the present channel with five tangents, instead of two long straight courses as at first commenced.

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The original depth through lake St. Peter was 10 feet 6 inches.

From 1850 the channel was deepened from stage to stage until in 1888, when the debt amounted to somewhat over three million dollars, the Government decided to complete the channel as a national work, and to assume the debt and from that day the channel has been open free to the commerce of the world.

At that date the channel had been deepened to 27½ feet at ordinary low water from Montreal to Cap à la Roche, and from there to Quebec the tide was available.

The work was then conducted by the Department of Public Works of Canada, from 1889 until 1904, when the management and control of the river, together with the ships and dredges, were handed over to the Department of Marine and Fisheries, which department had general charge of navigation.

When the Department of Public Works was given charge of the enterprise in 1889, it set out to provide a channel with a depth of 30 feet at extreme low water, with a minimum width of 450 feet upon the straight portions, and from 550 feet to 750 feet wide at the curves, with an anchorage of 800 feet wide at "White Buoy Curve" in lake St. Peter. The Government programme at that date did not contemplate any work below Quebec, this being included with the original project when the supervision of the undertaking was transferred to the Department of Marine and Fisheries in 1904.

The River St. Lawrence Ship Channel extends in reality from Father Point to Montreal, a distance of 340 statute miles, but the contracted part of the river, which may be called "ship channel" proper begins at the Traverse, 60 miles below Quebec, giving a length of 220 miles.

The additional section was taken in hand in order to insure a 30-foot channel at extreme low tide at St. Thomas flats and Beaujeu bank. This work was begun in 1906.

The Beaujeu Bank channel was completed to a depth of 30 feet at extreme low tide, and with a width of 1,000 feet, in 1910. While the St. Thomas channel was completed to a similar depth and width and opened to navigation in 1912.

The South Channel being now completed, the Government immediately resolved to improve the North Channel below Quebec, which was strongly recommended by the shipping interests.

As it was found, however, that owing to the increased size of vessels using the ship channel, a depth of 30 feet at extreme low tide was unlikely to meet the future requirements of navigation, it was decided to deepen the North Channel to a depth of 35 feet at extreme low tide, and with a width of 1,000 feet. This work is now in active progress.

At the present time a splendid channel of 30 feet at extreme low water exists from Montreal to Cap à la Roche, and to Quebec by taking advantage of the tide.

The success of the work is in a great measure due to the geographical situation of the route, the physical features of the river being favourable for improvement, the determination and public spirit of the business men and industrial corporations of Montreal, and to the recognition by the Government of Canada of the national character of the project.

ACCIDENTS IN 1913.

Between Montreal and Father Point.

Only one serious accident occurred in the River St. Lawrence Ship Channel during the season of 1913. This was the collision, on July 28, during a dense fog, between steamers *Crown of Cordova* and *Lady of Gaspé*, opposite Cap Madeleine, a short distance below Three Rivers, Quebec. The *Lady of Gaspé* was beached, but no lives were lost. Considerable damage was done to both vessels, necessitating docking of both for repairs.

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The minor accidents were as follows:—

Between Montreal and Quebec.

S.S. Canada, of the "Canada Line," touched slightly edge of south bank above St. Augustin on May 30. No apparent damage.

S.S. Barcelona of the "Canada Line," while anchoring during fog, on August 24, below Long Pointe, Montreal Harbour, grounded her stern, port side on bank; was pulled off easily by tugs. No damage.

S.S. Mount Temple of the Canadian Pacific Railway Line, grounded on south bank of channel opposite Longueuil, Montreal harbour, September 24. After lightering part of her cargo, the steamer was pulled off by tugs. Some damage was done to her bottom plates; had to be docked for repairs.

S.S. Pisa of the "Canada Line," grounded at Batiscan anchorage on September 25. Came off easily at high tide, no damage.

Between Quebec and Father Point.

SS. Lake Manitoba of the C.P.R. Line, stranded below St. Laurent, Isle of Orleans, on July 29, but came off easily. Considerable damage done to her bottom plates.

SS. Whakalane, of the New Zealand Line, collided with wharf during fog at Indian Cove, Quebec harbour, September 13. Slight damage.

SS. Tyr, Norwegian steamer, touched ground slightly at St. Barnaby's island, on October 17. No damage.

None of the above accidents can be attributed to any fault of the ship shannel.

MARINE SIGNAL SERVICE—RIVER ST. LAWRENCE SHIP CHANNEL.

There are thirteen stations established at the following places:—

Name of place.	Locality.	Nautical miles below Montreal.	In operation.
Montreal.	Top floor Sauvegarde building, corner Notre Dame and St. Vincent streets.	00	Day and night.
Longue Pointe.	On the extreme point.	5	"
Verchères.	In the windmill near the wharf.	19	"
Sorel.	On the Government wharf.	39	"
Three Rivers.	On the upper end of Bureau wharf.	71	"
Batiscan.	At the wharf.	87	"
St. Jean des Chaillons.	On the hill at the semaphore.	93	"
Grondines.	In old Windmill.	97	"
Portneuf.	In the front range lighthouse.	108	During daylight.
St. Nicholas.	At semaphore station on summit of hill.	127	Day and night.
Bridge.	On point above Quebec bridge.	133	During daylight.
Quebec.	In dome of customs building.	139	Day and night.
Crane Island.	On the wharf.	171	"

These stations are connected by a private telephone system, terminating at Quebec and Montreal, with the exception of Crane island, which communicates with Quebec via the Bell Telephone Company's system.

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Each of these stations, with the exception of Montreal and Quebec, is provided with a mast 60 feet in height with a cross spar 20 feet long about 20 feet from the top of the mast.

When the station is in operation, a "Jack" is hoisted to the mast head during daylight, and a white light at night.

Signals displayed at west end of cross spar indicate river or points above station.

Signals displayed at east end of cross spar indicate river or points below station.

For other communications between vessels and stations or vice versa, the international code of signals is used.

This service was begun on September 1, 1907, and has proved to be very useful, as weather conditions and movements of vessels along the river can be reported from all the stations, and the information furnished to all the shipping agencies.

All of the stations were kept in good repair during the past season, and certain improvements made to some of them.

The Verchères station was made a day and night station.

ICEBREAKING.

QUEBEC, May 1, 1914.

V. W. FORNERET, Esq., C.E.,
Superintending Engineer,
River St. Lawrence Ship Channel,
Department Marine and Fisheries,
Sorel, Que.

SIR,—I have the honour to submit the following report on the work of the icebreakers *Lady Grey* and *Montcalm* during the winter of 1913-14.

At the close of the season of navigation of 1913 the *Lady Grey* was in readiness to help the last ships through the ice, and to aid the buoy service, but as there was no ice her services were not required, and on December 4, she proceeded to her station at Quebec to take up the work of guarding Cap Rouge during the winter.

The winter of 1913-14 was of about average severity. The month of December was mild. In January the thermometer registered zero, or below, only on three or four days during the month. Throughout February zero or below, was the rule rather than the exception. During the month of March the temperature was high for the season, and following this came cold weather in April.

The ice bridge formed at Sorel and Port St. Francis on December 28, and a short time afterwards the river was covered with ice from the latter place to Montreal. On January 13 the ice blocked at Batiscau, and by February 1, it had blocked up as far as Port St. Francis.

During the month of December the weather was so mild that there was little ice, and the icebreakers had no work to do at Cap Rouge.

On January 13, the first jam occurred at the bridge, followed by one on January 19, and another on February 8. These were all successfully broken up by the icebreakers. On two occasions large fields of batture ice from Les Ecureuils were intercepted and broken before reaching the bridge. Had these large fields of ice got down to that point a very heavy jam would have been formed, which the icebreakers might not have been able to cut through.

The jam of January 19, was broken up more by good luck than good management. The *Lady Grey* had been on a trip to Murray Bay, and fortunately arrived back just in time to help the *Montcalm* clear the channel. It was all the two ships could do, to cut through this jam, working the full seven hours of the falling tide. Had the *Lady Grey* been delayed a day below, the *Montcalm* alone would have been unable to do the work. It is a well-known fact that these jams pile up very rapidly, so it is

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practically certain that had the *Lady Grey* been a day later in returning from Murray Bay, this jam would have reached such proportions as would have required the work of both vessels for the remainder of the season, to clear it.

On February 12, the ice jammed at Portneuf. Until this date it had been open from Quebec to Batiscau.

This jam at Portneuf was exceedingly heavy, and extended from a little below La Roche à Oiseau to Richelieu island, and was made up in parts of packed ice from 40 to 50 feet thick, and in other parts of frazil ice from 60 to 80 feet thick, and solid to the bottom. In a short time after this jam formed the ice had backed up as far as Three Rivers, with the exception of an open space about 4 miles long extending from Richelieu island to Grondines.

The *Lady Grey* began the work of breaking up the Portneuf jam on February 17, and worked there until February 19, when she was recalled to make a trip to Murray Bay. Owing to delays due to bad weather, she was not able to make this trip until February 28. On that date the *Montcalm* went to Portneuf and took up the work where the *Lady Grey* left off. From February 17 until February 28, no work was done at Portneuf as the *Lady Grey* was waiting to go to Murray Bay at the first opportunity and the *Montcalm* was on "stand-by" to break up battures coming from Les Ecu-reuils, which might jam at the bridge. Work was carried on steadily from February 28, until March 13, part of the time both ships working together. On March 13, the *Montcalm* lost her rudder; and as she had not a spare one, this accident put her out of commission for the remainder of the season.

As the *Montcalm* was not available, the whole of the work fell to the share of the *Lady Grey*, and consequently, with only one ship, progress was slower. On March 17, the *Lady Grey* cut through into the open water at the foot of the Richelieu rapids. She at once proceeded to Grondines where she worked until March 20, when a propeller blade was carried away, and a return had to be made to Quebec for repairs. Owing to the fact that the tides were not high enough, it was some days before the ship could be put on the gridiron to have the necessary repairs made, and it was not until March 27 that she resumed work at Grondines.

After the return of the *Lady Grey* to Grondines on March 27, better progress was made, the ice being lighter and breaking freely. On April 2, the head of the cut was at Pointe Citrouille.

From Pointe Citrouille upwards slow progress was made, as stiff blue ice from 18 to 24 inches was encountered, and it was not until April 19 that the *Lady Grey* reached Three Rivers. From April 17 to 19 she was in shelter at Cap Madeleine wharf, as large masses of ice broke away above and below her, so that it would have been dangerous to have attempted further advance. When this ice moved down on April 19 she was able to get into Three Rivers.

After the *Lady Grey* arrived at Three Rivers, she proceeded to clear the river of ice up to Nicolet Traverse, and then to open up the lower end of lake St. Peter. The lake ice shoved on April 22, and was kept running steadily by the *Lady Grey*. On April 25 the last of the up-river ice passed through Port St. Francis, and the river was once more clear to the sea, bringing to a close one of the most strenuous seasons of icebreaking that has yet been experienced.

The river below Montreal having been cleared of ice, the *Lady Grey*, at the request of the Department of Railways and Canals, proceeded to the foot of the Soulanges canal and cut a channel through the heavy accumulations of frazil ice which annually forms there. The opening of this channel enabled the shipping from the upper lakes to pass through to Montreal without delay.

I have the honour to be, sir,

Your obedient servant,

W. B. McLEAN,

Resident Engineer.

GENERAL INFORMATION.

During the season, the usual sweeping of the channel was done, and no obstruction of a serious nature was discovered.

A few sandbars were found to have formed in the Champlain channel near Point Citrouille, but these were removed by a dredge before the low-water season.

The Cap à la Roche semaphore at Deschaillons, Que., which indicates the depth of water in the dredged channel at Cap à la Roche was put in operation on April 26, and the St. Nicholas semaphore, showing the depth over the undredged St. Augustin bar, on May 3.

Good progress has been made on the north channel below Quebec, where dredges *Beaujeu* (No. 8) and *Galveston* (No. 9) are both at work. In order to expedite this work, it is very important that additional plant be procured. It is the intention of the Department, however, to have a dredge built on similar lines to the *Corozal*, which is employed on the deepening of the Panama canal, which is one of the largest and most powerful dredges of its kind in the world. It is expected that the contract for its construction will be awarded shortly.

Some advance has been made on Horseback bar channel, which should be completed by the end of next season. This will give a channel with a depth of 30 feet at extreme low water and 450 feet in width, instead of 27½ feet depth at ordinary low water and 300 feet width as at present. The axis of the channel will also be changed, and a new range of lights built to mark the centre line.

Cap Charles channel is nearly completed, as the widening will be finished next season, but there is still a short distance at the lower end to be deepened on the south half of the channel. - This should be nearly finished by the end of next season, which when completed will give a width of 450 feet on the straight portion of the channel and 600 feet on the curve, and a depth of 30 feet at extreme low water instead of a width of 300 feet and a depth of 27½ feet at ordinary low water as at present.

The dredging at Cap à la Roche channel and curve is not making as much progress as was hoped, owing to the solid shale rock to be removed being of much harder nature than was expected; in fact in some places, the dredges could not make any impression on it. With the aid of the rock-cutter, however, this is being overcome, as the rock-cutter breaks up the rock and prepares it for the dredges, and it is then more easily removed. The widening is nearly completed, and should be finished by the end of next season; the deepening will take two more seasons. When this is done, there will be a channel with a depth of 30 feet at extreme low water and a width of 450 feet to 550 feet instead of 27½ feet at ordinary low water and 300 to 450 feet wide, as at present. (The extreme low-water datum is 2 feet lower than the ordinary low-water datum.) After the widening is done, it will be tested with the sounding scow, and if it proves clear, the buoys will be shifted over to give the increased width, which may be done next season.

The length of the 30-foot channel actually completed at the close of navigation season of 1913, equals 61.55 statute miles. The total length requiring dredging is 63.35 miles, there remaining 1.80 miles yet to be done.

On the 35-foot project between Montreal and Quebec, dredging has been done at lake St. Peter, Ste. Anne traverse, Varennes curve and Pointe aux Trembles channel. The total length dredged equals 15.57 statute miles, total length to be dredged being 82.24 miles, there remaining to be dredged 66.67 miles. With the additional plant now available, much better progress will be made.

The Repentigny steamboat channel from Ile Ste. Therese to Lavaltrie was completed to 15 feet at extreme low water, with the exception of a few small lumps at the lower end of channel, which can be easily cleaned up in a couple of weeks at the commencement of next season. It will then be buoyed out and opened for light-draught navigation. The necessary lighthouses to mark the centre line of the different courses are finished. This new channel will be of great benefit in relieving the ship channel of tows, etc.

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The work on the Montreal floating dock channel approach is nearly completed; a channel of over 800 feet in width and dredged to 30 feet at extreme low water was available at the end of the season. It is expected that the additional widening and deepening will be completed next season.

The total cost, from 1851 to the end of fiscal year, March 31, 1914, of the ship channel, including plant, shops, surveys, etc., is as follows:—

Dredging	\$10,505,495 16
Plant, shops, surveys, etc.....	6,433,651 66
	\$16,939,146 82

The number of cubic yards dredged amounted to 91,301,742, the material varying from very hard shale rock to soft blue clay.

Year.	AVERAGE DEPTH FOR EACH MONTH IN THE 27½ FOOT CHANNEL. (27½ Feet at ordinary low water.)							From Sorel Gauge during each year May to November.	
	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Highest.	Lowest.
	Ft. In.	Ft. In.	Ft. In.	Ft. In.	Ft. In.	Ft. In.	Ft. In.	Ft. In.	Ft. In.
1890	35 6	35 3	31 9	30 6	30 9	29 9	30 6	37 0	29 0
1891	34 6	31 3	29 9	29 9	30 0	28 3	28 3	36 9	27 3
1892	31 0	31 9	31 6	30 6	28 9	28 3	28 3	33 6	27 3
1893	36 0	34 3	30 9	29 9	29 6	28 6	28 0	37 6	27 6
1894	34 6	31 9	31 0	29 2	28 3	28 9	29 0	36 0	27 7
1895	33 3	31 3	28 3	28 3	27 6	26 9	26 9	34 6	25 10
1896	33 6	30 6	28 9	28 0	27 6	27 9	29 0	37 0	27 4
1897	35 6	32 6	30 3	29 3	28 0	27 0	27 6	37 0	26 5
1898	31 6	30 9	29 8	28 2	28 2	28 3	28 6	32 1	26 9
1899	36 2	31 9	30 3	28 6	27 6	28 0	27 9	37 9	26 9
1900	33 6	30 9	30 6	29 6	28 1	28 9	29 2	35 9	27 4
1901	34 3	31 10	29 2	28 3	27 7	27 4	27 3	36 3	26 6
1902	32 2	32 2	32 2	29 4	28 1	28 1	29 0	34 1	27 6
1903	33 0	30 11	30 5	29 5	28 4	29 0	27 11	32 8	26 11
1904	36 3	34 5	30 9	29 5	29 5	30 4	29 3	37 4	28 1
1905	31 10	30 8	29 7	29 0	28 0	28 5	28 1	33 6	27 1
1906	32 4	31 5	29 3	27 11	27 3	27 4	27 6	33 3	26 9
	AVERAGE DEPTH FOR EACH MONTH IN THE 30 FOOT CHANNEL. (30 feet at extreme low water of 1897.								
	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Highest.	Lowest.
	Ft. In.	Ft. In.	Ft. In.	Ft. In.	Ft. In.	Ft. In.	Ft. In.	Ft. In.	Ft. In.
1907	37 1	35 9	34 3	32 10	32 4	32 9	33 7	38 3	31 10
1908	41 5	37 10	33 10	32 10	32 0	31 0	30 6	42 4	30 0
1909	40 6	37 6	33 10	33 2	32 7	32 4	31 6	42 7	30 11
1910	35 7	34 5	32 3	31 7	31 6	31 6	31 7	37 1	30 7
1911	36 6	34 6	32 1	31 3	30 9	30 2	30 3	38 1	29 4
1912	37 9	37 6	33 6	32 8	32 6	32 6	34 9	40 11	31 3
1913	37 0	34 4	32 8	31 10	31 6	32 1	32 7	38 6	31 1

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COST OF THE SHIP CHANNEL TO DATE.

TABLE showing the total cost of the Dredging Plant and the Quantities Dredged to March 31, 1914.

	Cost of Dredging.	Expenditure for Plant, Shops, Surveys, &c.	Quantities Dredged.
	\$ cts.	\$ cts.	\$ cts.
MONTREAL HARBOUR COMMISSIONERS, 1851 TO 1888.			
Dredging Montreal to Cap à la Roche to 27½ feet at O.L.W. and from Cap à la Roche to Quebec to 27½ feet at half tide.....	3,402,494 35	534,809 65	19,865,693
DEPARTMENT OF PUBLIC WORKS.			
Dredging consisting of widening and cleaning up of channel, deepening Cap à la Roche to Cap Charles to 27½ feet at O.L.W. and dredging at Grondines, Lotbinière and Ste. Croix, 1889 to June 30, 1899....	829,583 08	486,971 79	3,558,733
PROJECT OF 1899.			
Dredging channel between Montreal and Quebec to 30 feet at lowest water of 1897, also widening to a minimum width of 450 feet and straightening.			
Fiscal year 1899-1900.....	100,191 01	265,270 78	1,107,894
" 1900-1901.....	136,680 83	287,040 04	2,479,335
" 1901-1902.....	185,429 80	479,731 47	3,098,350
" 1902-1903.....	255,776 55	277,703 50	6,544,605
" 1903-1904.....	276,958 59	308,765 44	4,619,260
DEPARTMENT OF MARINE AND FISHERIES.			
This includes the work below Quebec.			
Fiscal year 1904-1905.....	311,087 93	277,225 69	2,716,220
" 1905-1906.....	431,768 30	317,327 37	4,047,530
" 1906-1907 (July 1, '06 to March 31, '07)....	302,677 37	275,003 61	3,001,010
" 1907-1908.....	478,209 66	417,390 22	4,831,875
" 1908-1909.....	497,686 03	340,861 86	5,896,737
" 1909-1910.....	572,950 71	321,375 80	6,354,285
" 1910-1911.....	576,838 02	483,248 88	5,600,050
" 1911-1912.....	588,697 60	499,799 58	4,509,904
" 1912-1913.....	663,229 74	430,107 86	6,929,344
" 1913-1914.....	895,235 59	426,018 12	6,140,867
	10,505,495 16	6,433,651 66	91,301,742

DREDGING OPERATIONS NO. 1.

Laval (No. 1).—This is the oldest dredge in the ship channel fleet. The hull is of wood, constructed in Ottawa in 1894. The buckets are made of cast steel, for work on rock or other hard material.

During the winter of 1912-13 the hull, boilers, machinery, and buckets of this dredge were overhauled and repaired. A new steel frame and a new funnel were installed.

The details of the operations for the fiscal year beginning April 1, 1913, were as follows:—

Dredge *No. 1* left Sorel on April 28, and arrived in Montreal the next morning, April 29. From April 29, until May 6, she was tied up at Maisonneuve, engaged in putting in a new bow wire, taking coal, etc.

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On May 7, this dredge was laid out at section 42 in the ship channel abreast of Hochelaga, where she worked until June 20. Anchors were lifted on this date, and the dredge was taken to the floating dock of the Canadian Vickers Company, Limited, where she was docked the following day, June 21.

The dredge remained in dock until July 4, undergoing repairs to the hull.

On July 5 she was laid out again where she left off on June 20, and continued working until November 28, when she stopped for the season, and was brought to Sorel on November 29, to go into winter quarters.

The work to be done was clearing up small irregular lumps and patches. This involved covering as much ground as though a fair average cut had been carried, but gave a low return for the number of cubic yards dredged, and consequently a high cost per cubic yard.

From June 21 until July 4, inclusive, this dredge was in dry dock, and from October 6 to 8, inclusive, time was lost, as the buckets had come off the tumbler. Apart from this there was no serious delay or breakage throughout the season.

In a total of 160 days during which dredge *No. 1* was at work, her machinery was in actual operation 71 per cent of the full working time.

The total number of cubic yards dredged amounted to 49,450, at a cost of \$59,884.46 or \$1.21¹¹/₁₀₀ per cubic yard.

Laurier (No. 2).—The hull of this dredge is also of wood, having been constructed at the Government ship yard at Sorel in 1897. She is equipped with a set of cast-steel buckets, especially designed for work in rock or other hard material.

During the winter of 1912-13, this dredge was given a thorough overhauling; a new tumbler and a new funnel were supplied.

The details of the operations of this dredge for the fiscal year beginning April 1, 1913, were as follows:—

Dredge *No. 2* left Sorel April 22, arriving at Varennes the same afternoon. She was laid out for work on April 23 at Varennes curve, to widen and deepen the channel to 35 feet at low water of 1897, the material being soft clay.

No. 2 continued to work at Varennes curve until June 24, when she was taken down to Cap à la Roche, where the dredge worked until September 2, when it was found necessary to take *No. 2* to Montreal to place her into the floating dry dock, as the vessel was leaking very badly. Dredge *No. 2* came out of dock, after the necessary repairs and caulking had been made, on September 15, and was taken back to Cap à la Roche, and laid out on Cap Charles channel, the material to be removed being hard shale rock.

On October 28, the dredge was towed up to Varennes curve to continue where she had been working at the beginning of the season, and was taken into winter quarters at Sorel on November 26, 1913.

In a total of 172 days during which dredge *No. 2* was at work, her machinery was in actual operation 54 per cent of the full working time.

The total number of cubic yards dredged amounted to 242,881, at a cost of \$64,709.86, or 26 ⁶⁵/₁₀₀ cents per cubic yard.

Aberden (No. 3).—The hull of this dredge is of steel, the complete vessel having been constructed at the Sorel shipyard in 1900. The buckets are of cast steel, for working in hard material.

During the winter 1912-13 this dredge was given a good overhauling and put in first-class condition for the next season.

The details of the operations of this dredge for the fiscal year April 1, 1913, were as follows:—

On April 22, dredge *No. 3* was taken to Ste. Anne traverse, and laid out to deepen and widen the channel to 35 feet at low water of 1897, the material to be dredged being clay. Work was carried on there until June 16.

On June 16, this dredge was removed to Grondines, where she was laid out at Horseback bar to deepen and widen the channel to 30 feet at low water of 1897, the material to be removed being clay and embedded boulders. She continued working at Grondines until November 7.

Owing to the stony nature of the material to be dredged, *No. 3* lost a good deal of time removing stones and boulders with the aid of a stone lifter. Time was lost from September 2 to 6, inclusive, repairing buckets and putting in new teeth, also from September 13 to 17 inclusive, renewing bush and key of tumbler. On October 3, the buckets came off the frame, and the dredge was unable to work from that date until October 14, when they were all finally lifted and replaced.

On November 7, *No. 3* was taken up river to Pointe aux Trembles, where she was laid out on November 10, to deepen and widen the channel to 35 feet at low water of 1897, the material to be dredged being clay. She remained working there until November 26, when she was brought down to Sorel and went into winter quarters.

The working time of dredge *No. 3* was 186 days, the dredge being in actual operation 64 per cent of the full working time.

The total number of cubic yards removed amounted to 299,766 cubic yards, at a cost of \$58,807.44 or 19 $\frac{62}{100}$ cents per cubic yard.

Lady Minto (No. 4).—This dredge is of the same type and design as *No. 3*, and was constructed at the Sorel shipyard in 1900. *No. 4* is also provided with cast steel buckets for dredging in rock and other hard material.

During the winter 1912-13, the dredge received all necessary repairs and overhauling to put her into satisfactory shape for next season's work.

The details of the operations during the season commencing April 1, 1913, were as follows:—

Dredge *No. 4* left Sorel April 23, was taken up to Pointe aux Trembles, and laid out on April 25, to deepen and widen the channel to 35 feet at low water of 1897, the material to be removed being clay. She worked there until June 20.

On this date, *No. 4* was brought down to Varennes, where she was laid out at Varennes curve to deepen and widen the channel to 35 feet. Clay was the material to be excavated. She was operated there until July 19.

On July 19, she was towed to Sorel, where additional anchor chains were taken on board, and on July 21 she left for Grondines, arriving on July 22. The following day, July 23, *No. 4* was laid out there to deepen and widen the channel to 30 feet at low water of 1897. The material to be removed being clay and embedded boulders.

Dredge *No. 4* worked at Grondines from July 23 until November 7. While there she had two accidents which occasioned some little delay. (On October 7 the buckets came off the frame, and the dredge was unable to work from that date until October 11 inclusive, when the buckets had all been replaced. Again on November 1, the buckets came off, and most of them went to the bottom. These buckets had all been lifted with the aid of a stone lifter by November 7, and on this date the dredge was brought to Sorel, where she was again put into working order.)

The dredge was in readiness again by November 11, and on that date was laid out at Ste. Anne traverse to deepen and widen the channel to 35 feet, the material to be dredged being clay. She worked there until November 21, when the buckets again came off the frame. These buckets were lifted by November 26; the dredge was then brought into winter quarters at Sorel.

The number of days during which this dredge was in operation was 183, and the percentage of time of actual work 62.

The total number of cubic yards removed amounted to 304,085, at a cost of \$58,186.52, or 19 $\frac{13}{100}$ cents per cubic yard.

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Lafontaine (No. 5).—This dredge was constructed at the Sorel shipyard, and was completed in 1901. Her hull is of wood, she is fitted out with cast steel buckets, and has breasting winches of a new type, using wire rope instead of chains for side moorings.

During the winter of 1912-13, the dredge was thoroughly repaired, boilers, engines, buckets, winches, hull, deck houses, etc., being overhauled and put into first-class condition for the next season.

The details of the operations of this dredge for the fiscal year beginning April 1, 1913, were as follows:—

Dredge *No. 5* left Sorel April 22, and was taken up to Varennes and was laid out on April 23, to deepen and widen Varennes curve to 35 feet at low water of 1897, the material being clay. Work was carried on at Varennes until June 7.

On this date, *No. 5* was brought to Sorel, remaining there until June 10 undergoing repairs, and on that date was taken to Cap à la Roche curve where she was laid out to deepen and widen the channel to 30 feet at low water of 1897, the material to be removed being shale rock. She continued working there until November 11.

No. 5, on November 11, was brought up from Cap à la Roche to Pointe aux Trembles and laid out on November 12 to deepen and widen the channel to 35 feet. Work was carried on there until November 25, and on November 26 she was taken to Sorel to go into winter quarters.

On September 4, the buckets came off the tumbler, and the dredge was not ready for work again until September 8.

The working time of dredge *No. 5* was 183 days, the dredge being in actual operation 51 per cent of the full working time.

The total number of cubic yards removed amounted to 230,322, at a cost of \$74,432.36, or 32 $\frac{3}{100}$ cents per cubic yard.

Baldwin (No. 6).—This dredge was constructed at the Sorel shipyard in 1902, the hull being of wood. *No. 6* is provided with large built-up buckets for work in soft material, but with sufficient teeth to enable her to work in hard-pan, etc.

During the winter of 1912-13, this dredge was given a complete overhauling both in the engine room and on deck.

The details of the operations of this dredge for the fiscal year beginning April 1, 1913, were as follows:—

Dredge *No. 6* left Sorel May 7, and was taken up to St. Sulpice channel, where she was laid out for work on the new steamboat channel to dredge to a depth of 15 feet at low water of 1897, and 300 feet wide, the material being clay, sand, and stones. From May 7 until May 10, no dredging was done, as repairs to the frame hoisting winch were being finished. Work began on Monday, May 12, and continued until June 16, when a tumbler was broken. The dredge was taken to Sorel, the repairs were made to the tumbler, and she was relaid out at St. Sulpice channel on June 23, where she worked until July 28.

On July 28, *No. 6* was taken down river and laid out on July 30, in Champlain channel to clean up some lumps and ridges that had been formed. She worked there until November 10.

Some time was lost owing to breakages while *No. 6* was at Champlain channel. She was unable to work from August 28 until September 8, as the shaft of one of the breasting winches was broken and the bush for the tumbler had to be renewed. From September 15 to 17, the dredge was again idle, as an air pump required repairs. On September 22, the buckets came off the frame and were not all replaced until September 29.

On November 10, *No. 6* left Champlain, and was taken back to the St. Sulpice channel, and laid out on November 12. She worked there until November 27, when she was brought into winter quarters at Sorel.

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In a total of 165 days during which this dredge was at work, her machinery was in actual operation 47 per cent of the full working time.

The total number of cubic yards removed amounted to 206,850 at a cost of \$59,-679.39 or 28 $\frac{85}{100}$ cents per cubic yard.

Hydraulic dredge *J. Israel Tarte* (No. 7).—The hull of this dredge is of steel, of the same type and general design as the steel hulls of the elevator dredges. She was constructed in 1902 by the Polson Iron Works Company, of Toronto, Canada.

During the winter of 1912-13, the dredge and the discharge pipes were thoroughly overhauled and repaired.

The details of the operations of this dredge for the fiscal year beginning April 1, 1913, were as follows:—

Dredge No. 7 left Sorel May 6, and was taken down and laid out at the White buoy curve, lake St. Peter, to deepen the channel to 35 feet at low water of 1897, the material being clay. After being placed in position, the discharge pipes had to be connected and some general repairs finished, so that it was not until May 12, that the dredge began work. From May 12 until August 7, she was employed at the White buoy curve.

On the latter date, No. 7 was moved up to the lower end of No. 1 curve, where she was laid out to deepen the channel to 35 feet, the material to be removed being hard clay and stones. She began work at curve No. 1 on August 8, and continued working there until November 14, when the dredge was brought up to Ile à la Pierre, where the crew were engaged cleaning ship until November 25, when she was brought to Sorel to go into winter quarters.

During the season some delays were caused owing to breakages, the most serious of which were as follows: From June 17 to 19, time was lost owing to a broken piston rod; from June 26 to 28, the dredge had to stop work owing to one of the pumps being out of order; on September 17, the cutter head shaft was broken. The dredge was brought to Sorel, repairs made, and she was relaid out for work on October 2.

Dredge No. 7 was greatly delayed again during the season by wind; working as she does pretty well in the centre of the lake, she is exposed from every quarter. The discharge-pipe connections are frequently broken, and a great deal of time lost reconnecting them.

Steam pressure was again a serious cause of delay, stokers being hard to get, and very frequently those employed being very poor firemen, without a proper knowledge of their duties.

In a total of 153 days during which this dredge was at work, her machinery was in actual operation 41 per cent of the full working time.

The total number of cubic yards removed amounted to 1,422,142 at a cost of \$123,916.33 or 8 $\frac{71}{100}$ cents per cubic yard.

Hopper-hydraulic dredge *Beaujeu* (No. 8).—Steel hull, twin screw: This dredge was constructed at the Sorel shipyard, and completed in 1907.

During the winter of 1912-13, No. 8 had the usual overhauling and repairs, and was put into first-class condition for the next season's work.

The details of the operations during the season commencing April 1, 1913, were as follows:—

Dredge No. 8 left Sorel April 24, stopped at Three Rivers to take coal, and arrived at her station at West Sand in the North channel below Quebec on April 25. She began work the same evening, dredging to a depth of 35 feet at extreme low water spring tides, and to a width of 1,000 feet, the material removed being clay, sand, gravel, and stones. She continued working without any serious interruptions until July 2.

On this date, the dredge was compelled to stop owing to a strike among the firemen, and did not recommence until July 14. The time was not altogether lost,

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however, as it would have been necessary to stop in a few days to make repairs to the turbine and cutter-head shafts. This work was carried out by the engineers and oilers, while a new lot of firemen were being obtained.

No. 8 began work again on July 15, but for the remainder of the month lost more or less time owing to not having a full complement of stokers.

From August 1, work was carried on without any interruptions of any great importance until September 17. From September 18 to 20, inclusive, the dredge was idle, as the turbine shaft had to be renewed. Dredging operations were recommenced on September 21, and continued until October 4, when the dredge was put into dry dock for repairs to the tail-end shafts, rudder and some re-riveting of the shell plating. She came out of dock on the morning of October 18, and proceeded to her station at West Sand. She continued working there until November 29, when she left for Sorel, where she arrived December 1, and went into winter quarters.

A hopper barge to serve dredge No. 8 was delivered by the firm of Messrs. Geo. T. Davie and Sons, of Lévis, Que., about the end of October. This barge was in commission for about a month, and after being experimented with and put through various trials was found to work satisfactorily.

At present dredge No. 8 is working only on one anchor making long cuts in the direction of the channel through the heavy bank of sand at West Sand. Before very long, the bulk of the material will have been removed, and it will be necessary to lay out the dredge on breasting anchors to clean up lumps and ridges and make a good bottom. Previously, when the dredge did breasting work, she loaded herself and carried her load to dump, and the best that could be done was one load each tide. Now the dredge will remain on her anchors, the hopper barge will be loaded and sent to the dump, and the only time lost will be while the barge is absent discharging her load. Working in this way, there will be very much less delay.

Another barge similar to the one already received is to be provided, and, when this is done, the dredge will be able to work continuously, as one barge will be alongside loading, while the other is away discharging.

In a total of 165 days during which this dredge was at work, her machinery was in actual operation 81 per cent of the full working time.

The total number of cubic yards removed was 1,638,400 at a cost of \$94,604.35, or 5 $\frac{7}{100}$ cents per cubic yard.

Suction Hopper dredge *Galveston* (No. 9).—Steel hull, twin screw. During the winter of 1912-13, this dredge received the usual repairing and overhauling.

The details of the operations of this dredge for the fiscal year beginning April 1, 1913, were as follows:—

Dredge No. 9 left Sorel April 26, came down to Quebec, and on April 28, went into dry dock, where she remained until May 13.

This dredge was fitted with two sets of dumping doors. The lower set, which were large and opened below the bottom, when dumping, were exposed to the danger of touching the bottom and being broken or carried away. The other set was placed above the large doors. These doors are much smaller than the lower doors, and consequently stronger. When the small doors are open they are flush with the bottom of the ship, so that there is no danger of damaging them should the vessel touch anything.

It was decided, as there had been a great deal of trouble in keeping the large doors tight, to use only the small doors, as they were stronger. This would reduce the quantity of each load a little, but there would be less loss owing to the doors being tight and the load could be made more quickly.

During the time the *Galveston* was in dry dock, the above changes to the dumping doors were made, the tail shafts were overhauled, and the vessel was scraped and painted up to the water line.

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On May 13, *No. 9* left the dry dock, coaled up, and then proceeded to her station at West Sand, on the North channel, arriving there May 14, and beginning work the same day, dredging to 35 feet at extreme low water, spring tides, 1,000 feet in width, the material being sand, gravel, and stones.

This dredge was employed during the whole season in the North channel.

On November 15, *No. 9* left West Sand, went to St. Michel where the ship was grounded and the intake blocked. She left there November 16 and proceeded to Sorel, arriving there November 17, and went into winter quarters.

Dredge *No. 9* was greatly delayed throughout the season by breakages of one kind or another of more or less importance.

The most serious of the accidents to the machinery are as follows:—

During June two days were lost repairing the windlass; from July 11 to 17, the dredge was at St. Michel repairing a sluice valve; the dredge was idle from August 12 to 14 while repairs were made to a pit-valve; the dredge was unable to work September 29 and 30, as the turbine casings had to be renewed; finally, on November 15, the machinery throughout was in such bad condition that she was ordered to prepare for winter quarters. *No. 9* was beached at St. Michel to have the intake opening closed, and left for Sorel on November 16, reaching her destination on the 17th.

The working time of dredge *No. 9* was 161 days. She was in actual operation 69 per cent of the full working time.

The total number of cubic yards removed amounted to 586,100 at a cost of \$84,-\$16.97 or 14 $\frac{38}{100}$ cents per cubic yard.

Dipper dredge No. 10.—Steel hull. This dredge was constructed at Sorel shipyard, and completed 1910.

During the winter of 1912-13, all necessary repairs were made to dredge *No. 10*.

The details of the operations of this dredge for the fiscal year beginning April 1, 1913, were as follows:—

Dredge *No. 10* left Sorel April 26, and was taken up to Maisonneuve, arriving there the same day. Several days were lost waiting for the floating crane to place the spuds, and in placing the same, and it was not until May 9, that the dredge was laid out at the approach to the floating dock to dredge to 30 feet at low water of 1897 and from 500 to 750 feet in width, the material being hard-pan and stones. This dredge was employed on the approach to the floating dock for the whole season, and on November 24, was taken into winter quarters at Sorel.

There were a number of minor breakages which, taken altogether, occasioned considerable delay. The most serious accident was the breaking of the counter balance of the crank shaft, which occurred May 19, and the repairs were not completed until May 24.

The working time of dredge *No. 10* was 165 days, the dredge being in actual operation 63 per cent of the full working time.

The total number of cubic yards removed amounted to 409,600 at a cost of \$57,-678.47 or 14 $\frac{08}{100}$ cents per cubic yard.

Dipper dredge No. 11.—Steel hull. This dredge was constructed at the Sorel shipyard, and was completed in 1911.

During the winter of 1912-13, the hull and machinery of this dredge received a complete overhauling.

Dredge *No. 11* left Sorel April 24, and arrived at Maisonneuve the same day. From April 25 until May 5, the crew was employed putting in the spuds, shipping a bucket and generally getting the dredge into shape. She began work on May 6, at the approach to the floating dock, dredging to 30 feet at low water of 1897, and to a width of from 500 to 750 feet, the material removed being hard-pan and stones. Dredge *No. 11* was employed throughout the season at the approach to the floating dock and was brought into winter quarters at Sorel, November 19, 1913.

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There was a good deal of lost time throughout the season owing to minor breakages and others of a more serious nature. The most important of the latter were as follows: On May 28, the friction of the starboard spud was broken, was taken to Sorel, repaired, and the dredge began again June 4. On August 15, the bucket was damaged, and repairs were not completed until August 18. Again on August 20, the swinging table was damaged, and the repairs were only finished on August 26.

The working time of dredge *No. 11* was 167 days, the dredge being in actual operation 56 per cent of the full working time.

The total number of cubic yards removed amounted to 357,000 at a cost of \$53,-694.45 or 15 $\frac{9}{100}$ cents per cubic yard.

Elevator dredge No. 12.—This dredge was constructed at the Sorel shipyard, and was completed in 1912. Her hull is of steel. *No. 12* is fitted out with large cast steel buckets for rock work, and can dig to the depth of 52 feet. The breasting winches are similar to those in elevator dredge *No. 5*, using wire cables instead of chains.

The details of the operations of this dredge for the fiscal year beginning April 1, 1913, were as follows:—

Dredge *No. 12* left Sorel May 13, and was taken to Pointe aux Trembles, where she was laid out to deepen the channel to 35 feet at low water of 1897 and widen it, the material being shale rock and clay. She worked there until July 10.

On this date the dredge was taken down river to Cap Charles curve where she was laid out to deepen the channel to 30 feet at low water of 1897 and widen the material to be dredged being shale rock and boulders. Owing to repairs that had to be made to the tumbler, the dredge did not begin work at Cap Charles until June 18. She worked there until November 14.

On November 14, *No. 12* was taken up river again and laid out at Pointe aux Trembles, November 17, to continue where she left off in July. She remained dredging there until November 27, when she was brought into winter quarters at Sorel.

Dredge *No. 12* lost a good deal of time "stoning" at Cap Charles curve, and also was delayed considerably owing to breakages. The most serious of these were as follows: The dredge was idle June 23, renewing teeth of buckets; again from July 14 to 17, making repairs to the tumbler; no work was done from August 14 to 16, as repairs had to be made to the side rods of frame; September 24 the large gear wheel was broken, and repairs were only completed September 27, repairs to side rods and bracket of frame were being made from October 13 to 16.

The working time of dredge *No. 12* was 168 days, the dredge being in actual operation 50 per cent of the full working time.

The total number of cubic yards removed amounted to 207,071, at a cost of \$63,-738.60 or 30 $\frac{7}{100}$ cents per cubic yard.

Elevator dredge No. 13.—This dredge was constructed at the Sorel shipyard, and was completed in 1913. Her hull is of steel. *No. 13* is fitted out with large cast-steel buckets for rock work, and can dig to a depth of 52 feet. The breasting winches are similar to those on elevator dredge *No. 5*, using wire cables instead of chains.

The details of the operations of this dredge for the fiscal year beginning April 1, 1913, were as follows:—

Dredge *No. 13*, after being completed, was laid out September 2, at Ste Anne traverse close to Sorel in order to have her near the repair shops, in case, as very frequently happens, that anything should go wrong with her new machinery.

This dredge was employed deepening the channel to 35 feet at low water of 1897 from September 2, until November 28, when she was brought into Sorel for winter quarters. The material dredged was soft clay.

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The working time of dredge *No. 13* was 77 days, the dredge being in actual operation 54 per cent of the full working time.

The total number of cubic yards removed amounted to 187,200 at a cost of \$41,586.39 or 22 $\frac{2}{100}$ cents per cubic yard.

The total number of cubic yards removed by the dredging fleet in the ship channel between Montreal and Quebec, during the fiscal year ending March 31, 1914, amounted to 3,916,367, at a total cost of \$716,314.27 or 18 $\frac{29}{100}$ cents per cubic yard.

The total number of cubic yards removed by the dredges *Beaujeu* (*No. 8*) and *Galveston* (*No. 9*) in the North channel below Quebec during the fiscal year ending March 31, 1914, amounted to 2,224,500, at a total cost of \$178,921.32 or 8 $\frac{03}{100}$ cents per cubic yard.

The total number of cubic yards removed by the whole of the dredging fleet during the fiscal year ending March 31, 1914, amounted to 6,140,867, at a total cost of \$895,235.59 or 14 $\frac{57}{100}$ cents per cubic yard.

PROGRESS of Dredging Operations at Date of Writing, the Close of the Season 1913,
30-foot Project.

Locality.	Distance, English miles.	Total length requiring dredging.	Length dredged in 1913.	Total length of 30-foot channel dredged.	Length yet to be dredged.
		Miles.	Miles.	Miles.	Miles.
Division 1:— Montreal to Sorel	45	22·90	.....	22·90	All completed.
Division 2:— Sorel to Batiscan	36	12·45	.....	12·45	All completed.
Division 3:— Lake St. Peter	20	18·00	.....	* 0·20 †17·80	
Division 4:— Batiscan to Quebec	59	10·00	0·40	8·20	1·80
Division 5:— Quebec to the Traverse	60	6·65		4·65	2·00
Total	220	70·00	0·40	66·20	3·80

*Not widened. †Widened.

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PROGRESS of the Dredging Operations at the Date of Writing, the Close of the Season of 1913, 30-foot Project.

Locality.	Length of Dredging.		Cubic Yards, yet required to be done.
	Required.	Done.	
	Miles.	Miles.	
Division 1—			
Longueuil shoal		1 10	
Longue Pointe to Pointe aux Trembles (E.H.)		5 05	
Ile Ste. Thérèse.		0 40	
Varennes to Cap St. Michel.		3 00	
Cap St. Michel to Verchères.		4 50	
Verchères traverse.		1 10	
Verchères to Contrecoeur.		1 70	
Contrecoeur channel.		6 05	
Total.		22 90	
Division 2—			
Sorel to Ile de Grace		4 40	
Stone Island.		1 10	
Ile aux Raisins.		0 25	
Lake St. Peter (see Division 3).			
Port St. Francis.		0 50	
Three Rivers.		0 50	
Cap Madeleine to Becancour.		1 55	
Becancour to Champlain.		2 25	
Champlain to Pointe Citrouille.		1 30	
Batture Perron		0 60	
Total.		12 45	
Division 3—			
Lake St. Peter		{ * 0 20 † 17 80 }	200,000
Total.		18 00	200,000
Division 4—			
Batiscan to Cap Levrard.		3 00	
Cap à la Roche channel	0 20	1 80	200,000
Pouillier Rayer.		1 20	
Cap Charles.	0 10	0 80	160,000
Grondines.	0 30	0 50	140,000
Lotbinière.		0 40	
Cap Santé.		0 20	
Ste. Croix.	0 60	0 30	200,000
St. Augustin.	0 60		500,000
Total.	1 80	8 20	1,600,000
Division 5—			
Quebec to The Traverse.	2 00	66 20	2,350,000
Total	2 00	4 65	550,000
Totals	3 80	4 65	550,000
Cubic yards yet to be done.			2,350,000
Cubic yards done.			73,537,662
Total.			75,887,662

*Not widened. †Widened.

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PROGRESS of Dredging Operations at Date of Writing, the Close of the Season 1913,
35-foot Project.

Locality.	Distance, English miles.	Total length requiring dredging.	Length dredged in 1913.	Total length of 35-foot channel dredged.	Length yet to be dredged.
		Miles.	Miles.	Miles.	Miles.
Division 1— Montreal to Sorel.....	45	28·63	0·63	1·77	26·86
Division 2— Sorel to Batiscan.	36	19·75	0·64	1·24	18·51
Division 3— Lake St. Peter	20	18·32	2·38	12·56	5·76
Division 4— Batiscan to Quebec	59	15·54	.....	.....	15·54
Division 5— Quebec to Goose Cape (North channel)	66	8·14	0·25	0·75	7·39
Total..	226	90·38	3 90	16·32	74·06

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PROGRESS of the Dredging Operations at the Date of Writing, the Close of the Season
1913, 35-foot Project.

Locality.	Length of Dredging in Miles.		Cubic Yards yet to be dredged.	Cubic Yards dredged.
	Yet to be done.	Done.		
Division 1—				
Longueuil shoal	1' 88	.....	573,259	
Longue Pte. traverse	0' 47	.....	426,222	
Longue Pte. curve	1' 32	.....	657,546	
Pte. aux Trembles channel	3' 39	0' 55	2,071,007	332,425
Ile Ste. Thérèse channel	1' 12	.....	275,100	
Varennés curve	1' 36	1' 22	612,352	1,764,225
Cap St. Michel curve	0' 56	.....	385,000	
Cap St. Michel to Verchères	4' 72	.....	2,273,832	
Verchères traverse	1' 24	.....	452,241	
Verchères to Contrecoeur	1' 91	.....	857,837	
Contrecoeur channel	8' 28	.....	5,221,481	
Lanoraie to Sorel	0' 61	.....	119,463	
Totals Division 1	26' 86	1' 77	13,927,343	2,096,650
Division 2—				
Sorel to Ile de Grace	3' 74	1' 24	2,102,510	818,200
Stone island	2' 11	.....	941,015	
Ile aux Raisins	2' 09	.....	910,000	
Port St. Francis	1' 00	.....	632,981	
Three Rivers	0' 72	.....	410,147	
Cap Madeleine to Becancour	2' 40	.....	979,118	
Becancour to Champlain	1' 16	.....	717,500	
Champlain to Pte. Citrouille	4' 06	.....	1,706,759	
Batture Perron	1' 23	.....	456,000	
Totals Division 2	18' 51	1' 24	8,856,030	818,200
Division 3—				
Lake St. Peter	5' 76	12' 56	3,287,806	7,478,248
Division 4—				
Batiscan to Cap Levrard	4' 48	.....	2,386,168	
Cap Levrard channel	1' 27	.....	781,666	
Cap à la Roche curve	2' 06	.....	1,836,859	
Cap Charles channel	2' 04	.....	1,077,416	
Grondines	0' 83	.....	513,332	
Lotbinière	0' 47	.....	321,480	
Cap Santé	1' 51	.....	655,561	
Ste. Croix	1' 47	.....	798,518	
St. Augustin	1' 41	.....	826,207	
Totals Division 4	15' 54	.....	9,197,207	
Division 5—				
Quebec to Goose cape (North channel) .....	.....	.....	.....	.....
Madame Reef shoal	2' 84	.....	2,585,132	
West Sand and East Narrows shoals	4' 55	0' 75	8,448,341	5,119,700
Totals Division 5	7' 39	0' 75	11,033,473	5,119,700
Totals	74' 06	16' 32	46,301,859	15,512,798

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ABSTRACT of Work of Dredging Fleet During the Fiscal Year ended March 31, 1914.

Dredge.	Locality of Dredging.	Time of Service.	Nominal work hours, 24 per day.	Hours actual dredging.	Number of scoops filled.	Number of yards dredged (scoop measurement.)	Depth of dredging in feet.	Width in feet.	Character of Soil.	Remarks.
		Days.	Hours.				Ft. In.	Feet.		
<i>Laval</i> (No. 1)	Montreal harbour (Ship Channel)	160	3,504	2,488 ¹ / ₂	211	49,450	30 0	600	Stones and gravel....	Captain J. Robidoux.
		80	1,764	1,018	710	137,625	35 0	550 to 600	Shalerock, hard pan and boulders.....	Captain R. Matte....
		56	1,224	644 ¹ / ₂	284	56,877	30 0	450 to 550	Shale rock.	
<i>Laurier</i> (No. 2)	Varenes curve..... Cap à la Roche	36	792	361	252	48,379	30 0	450		
		172	3,780	2,023 ¹ / ₂	1,246	242,881				
		47	1,032	810 ¹ / ₂	1,102	185,250	35 0	450	Clay.....	Captain Noé Baron.
<i>Lady Aberdeen</i> (No. 3) ..	Ste. Anne Traverse	123	2,712	1,612	493	77,916	30 0	450	Clay and embedded boulders.	
		16	348	204 ¹ / ₂	183	36,600	35 0	450	Clay.	
		186	4,092	2,627 ¹ / ₂	1,778	299,766				
<i>Lady Minto</i> (No. 4)	Pte. aux Trambles channel.....	49	1,080	740 ¹ / ₂	420	84,925	35 0	450	Clay	Captain Joseph Goudreault.
		26	564	466 ¹ / ₂	357	78,200	35 0	550 to 600	"	
		94	2,076	1,162 ¹ / ₂	693	123,860	30 0	450	Clay and embedded boulders.	
		14	312	143 ¹ / ₂	72	15,100	35 0	450	Clay.	
		183	4,032	2,513 ¹ / ₂	1,542	304,085				

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<i>Lafontaine</i> (No. 5)	Varenes curve. Cap à la Roche curve. . Pte. aux Trembles channel.	39 131 13 183	864 2,880 288 4,032	531 1,387½ 149 2,067½	379 763 50 1,192	76,800 146,022 7,500 230,322	35 30 35 35	0 0 0 0	550 to 600 450 to 550 450 450	Clay Shale rock. Clay.	Capt. Jos. St. Pierre.
<i>Baldwin</i> (No. 6)	St. Sulpice channel. . Champlain channel. . .	76 89 165	1,680 1,956 3,636	996½ 715½ 1,710½	434 449 883	117,050 89,800 206,850	15 30 35	0 0 0	300 450 450	Clay, sand and stones. Sand (cleaning up).	Captain Ant. Morin
<i>J. Israel Tarte</i> (No. 7)	Lake St. Peter (White Buoy curve) Lake St. Peter (Curve No. 1)	77 76 153	1,740 1,668 2,408	704½ 672½ 1,377	944,651 477,491 1,422,142	944,651 477,491 1,422,142	35 35 35	0 0 0	450 to 800 450 to 650 450 to 650	Clay Clay and stones.	Capt. Chas. Lavallée
<i>Beaujeu</i> (No. 8)	North channel, West sand (Below Quebec).	165	3,535	2,868	1,014	1,638,400	35	0	1,000	Sand, gravel and stones.	Captain A. Bourget.
<i>Galveston</i> (No. 9)	North channel, West sand (Below Quebec).	161	3,492	2,410	498	586,100	35	0	1,000	Sand, gravel and stones.	Captain A. Hoffman.
<i>Dipper Dredge</i> (No. 10)	Floating dock approach (Montreal harbour) . .	165	2,850	1,794	1,613	409,600	30	0	500 to 750	Hard pan and stones . .	Capt. Calm Beaulac.
<i>Dipper Dredge</i> (No. 11)	Floating dock approach (Montreal harbour) . .	167	2,820	1,567	1,274	357,000	30	0	500 to 750	Hard pan and stones . .	Capt. Willie Lebeau.
<i>Elevator Dredge</i> (No. 12)	Pte. aux Trembles channel. Cap Charles curve. . . .	59 109 168	1,296 2,400 3,696	758½ 1,091 1,844½	318 470 788	92,000 115,071 207,071	35 30 35	0 0 0	450 450 to 600 450 to 600	Shale rock and clay . . . Shale rock and boulders.	Capt. Alexis Morin.
<i>Elevator Dredge</i> (No. 13)	Ste. Anne Traverse . .	77	1,686	904	936	187,200 6,140,867	35	0	450	Clay.	Captain Paul Cardin.

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CLASSIFICATION of Disbursements for the

Vessels.	Fuel.	Wages.	Board.	Stores and Materials.	Repairs and Labour.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Dredge <i>Laval</i> (No. 1).....	6,697 89	8,888 78	2,917 19	2,849 96	13,653 35
Tug <i>Varennes</i>	4,383 94	5,228 87	2,108 84	1,218 71	2,171 89
Dredge <i>Laurier</i> (No. 2).....	7,397 56	8,955 16	2,934 42	2,513 34	17,711 00
Tug <i>Chambly</i>	2,533 28	4,610 24	1,753 15	619 80	5,607 37
Dredge <i>Lady Aberdeen</i> (No. 3).....	7,289 55	9,007 16	2,924 94	1,969 30	14,392 55
Tug <i>Emilia</i>	2,724 53	4,069 93	1,530 69	1,721 81	3,481 02
Dredge <i>Lady Minto</i> (No. 4).....	6,817 05	9,448 92	2,934 95	2,736 69	10,624 94
Tug <i>Iberville</i>	3,822 53	4,833 28	1,826 38	963 78	4,521 85
Dredge <i>Lafontaine</i> (No. 5).....	11,038 05	9,781 37	3,103 60	5,214 78	18,449 24
Tug <i>Lac St. Pierre</i>	5,246 78	4,967 72	1,966 46	2,029 98	1,936 22
Dredge <i>Baldwin</i> (No. 6).....	6,641 55	8,953 74	2,856 96	2,569 18	18,508 51
Tug <i>Lanoraie</i>	2,337 52	4,086 02	1,576 54	978 02	1,419 45
Dredge <i>J. Israel Tarte</i> (No. 7).....	23,384 76	16,535 98	5,045 96	5,397 18	35,368 87
Tug <i>Lotbinière</i>	3,621 63	5,423 37	2,025 89	891 73	2,233 50
" <i>Carmelia</i>	2,151 68	2,348 91	826 99	702 85	2,431 83
Dredge <i>Beaufeu</i> (No. 8).....	22,019 48	15,814 77	4,729 59	3,699 37	30,696 80
" <i>Galveston</i> (No. 9).....	17,127 98	13,733 22	3,843 87	4,474 32	28,153 08
Tug <i>Jas. Hawden</i> { Divided equally between Nos. 8 and 9. }	3,772 76	5,247 58	1,890 41	1,552 57	5,535 12
Dipper dredge (No. 10).....	8,241 39	9,304 78	2,568 94	2,723 67	13,032 42
Tug <i>Contrecoeur</i>	4,417 70	5,314 14	1,988 23	1,278 42	2,530 10
Dipper dredge (No. 11).....	9,033 39	8,714 11	2,318 01	2,851 60	11,821 91
Tug <i>Portneuf</i>	2,799 94	4,363 02	1,645 87	1,335 97	2,789 44
Elevator dredge (No. 12).....	10,412 55	9,761 35	3,325 68	4,111 37	12,298 48
Tug <i>Laviolette</i>	4,292 77	4,819 51	1,829 15	1,393 46	1,482 02
Elevator dredge (No. 13).....	5,998 05	4,682 64	1,463 57	1,182 99	6,786 15
Tug <i>Lavaltrie</i>	3,955 27	3,829 96	1,437 01	1,965 92	1,693 41
Str. <i>De Levis</i> ... { Divided equally $\frac{1}{3}$ to each Dredge. }	3,741 75	6,071 72	2,380 58	1,842 01	6,868 08
Tug <i>Jessie Hume</i>	2,490 75	2,297 36	674 03	852 13	6,254 63
Stone-lifter No. 3.....	130 50	1,550 11	430 17	144 15	2,643 19
Stone-lifter No. 4.....	387 00	2,415 85	603 16	842 18	2,205 12
Rock-cutter No. 1.....	2,830 50	4,526 71	1,516 79	1,890 16	2,177 15
Floating shop.....	.....	1,002 23	460 78	380 42	638 89
Construction for dredging fleet—					
Construction No. 36, Completion.....	.....	.....	.....	.....	.....
" " 39, ".....	.....	.....	.....	.....	.....
" " 43, ".....	.....	.....	.....	.....	.....
" " 59, ".....	.....	.....	.....	.....	.....
Improvements to Sorel ship-yard—					
Boiler hop, new tools & machinery.....	.....	.....	.....	.....	.....
Machine " ".....	.....	.....	.....	.....	.....
New sheer legs, completion.....	.....	.....	.....	.....	.....
Building No. 20, extension.....	.....	.....	.....	.....	.....
" 22, Platform for castings.....	.....	.....	.....	.....	.....
" " 23, Oil shed.....	.....	.....	.....	.....	.....
Water Works.....	.....	.....	.....	.....	.....
Wharf No. 4, extension.....	.....	.....	.....	.....	.....
Gasoline launch for the yard.....	.....	.....	.....	.....	.....
Steam Box.....	.....	.....	.....	.....	.....
One Compressor and cost of installation.....	.....	.....	.....	.....	.....
Angle sheer and bending machine.....	.....	.....	.....	.....	.....
Ship-yard general.....	.....	.....	.....	.....	.....
Water Levels Investigation <i>re</i> River	.....	.....	.....	.....	.....
St. Lawrence Ship Channel.....	.....	.....	.....	.....	.....
Stores and materials.....					
Totals.....	202,740 08	210,588 56	69,438 80	64,899 82	290,147 58

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Fiscal Year, ending March 31, 1914.

Expenditure: New Plant, Re-building Shipyard, etc.	Proportion of General and Office Expenses, etc.	Expenditure for each Vessel.	Floating Shop, Rock-crusher and Stone Lifter Service, Elevator Dredges.	Tug Service.	Inspection Towing, Sweeping, etc.	Total Cost of Operations of each Dredge and Plant during Fiscal Year.	Total Expenditure on Different Appropriations.
\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
.....	2,399 26	37,406 43	3,576 26	16,147 99	2,753 78	59,884 46	
.....	1,035 74	16,147 99					
.....	2,707 97	42,219 45	3,576 26	16,160 37	2,753 78	64,709 86	
.....	1,036 53	16,160 37					
.....	2,438 76	38,022 26	3,576 26	14,455 14	2,753 78	58,807 44	
.....	927 16	14,455 14					
.....	2,231 72	34,794 27	3,576 27	17,062 20	2,753 78	58,186 52	
.....	1,094 38	17,062 20					
.....	3,261 44	50,848 48	3,576 27	17,253 83	2,753 78	74,432 36	
.....	1,106 67	17,253 83					
.....	2,709 24	42,239 18	3,576 27	11,110 16	2,753 78	59,679 39	
.....	712 61	11,110 16					
.....	6,218 49	96,951 24		24,211 30	2,753 79	123,916 33	
.....	972 95	15,169 07					
.....	579 97	9,042 23					
.....	5,274 55	82,234 56		9,616 00	2,753 79	94,604 35	
.....	4,614 72	71,947 19		9,615 99	2,753 79	84,316 97	
.....	1,233 55	19,231 99					
.....	2,458 62	38,331 82		16,592 86	2,753 79	57,678 47	
.....	1,064 27	16,592 86					
.....	2,380 89	37,119 96		13,820 70	2,753 79	53,694 45	
.....	886 46	13,820 70					
.....	2,735 24	42,644 67	3,576 27	14,763 87	2,753 79	63,738 60	
.....	946 96	14,763 87					
.....	1,378 50	21,491 90	3,576 27	13,764 43	2,753 79	41,586 39	895,235 59
.....	882 86	13,764 43					
.....	1,432 69	22,336 83					
.....	863 48	13,462 38					
.....	335 70	5,233 82					
.....	442 29	6,895 60					
.....	846 95	13,828 26					
.....	170 13	2,652 45					
3,101 37							
1,032 00							
1,512 20							
20 83							5,666 40
3,213 19							
75 21							
10,970 83							
6,710 45							
359 74							
4,667 96							
445 83							
7,160 14							
4,473 81							
119 89							
6,862 64							
5,270 66							
265 60							50,595 95
							16,956 44
							5,465 26
56,262 35	57,420 75	895,235 59	28,610 13	194,574 84	35,799 21	895,235 59	973,919 64

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DETAILS of Dredging, Locality and Cost per Cubic Yard.

Dredges.	Total cost of operations of each dredge during Fiscal Year.	No. of days in operation each dredge.	Cost per day, operations and plant.	Days working, each locality.	Cost of work, each locality.	Total cost of operations each dredge.	Number of cubic yards dredged in each locality.	Total cubic yards for each dredge.	Cost per cubic yard, each locality.	Average cost per cubic yard for each dredge.	Kind of material dredged.	Locality of dredging.
	\$ cts.		\$ cts.		\$ cts.	\$ cts.			Cts.	Cts.		
<i>Laval</i> (No. 1).....	59,884 46	160	374 28	160	59,884 46	59,884 46	49,450	49,450	121 11	121 11	Stones and gravel.....	Montreal harbour (Ship chan.)
<i>Laurier</i> (No. 2).....	64,709 86	172	376 22	80	30,097 61	59,884 46	137 625	49,450	21 87	26 63	Clay.....	Varennes curve.
				56	21,008 33	59,884 46	56,877	49,450	37 04	26 63	Shale rock, hard pan and boulders.....	Cap à la Roche curve.
				36	13,543 92	59,884 46	48,379	49,450	27 98	26 63	Shale rock.....	Cap Charles channel.
<i>Lady Aberdeen</i> (No. 3).....	58,807 44	186	316 17	47	14,859 94	64,709 86	185,250	242,881	8 02	49 91	Clay.....	Ste. Anne traverse.
				123	38,888 79	64,709 86	77,916	242,881	49 91	49 91	Clay and embedded boulders.....	Grondines.
				16	5,058 71	58,807 44	36,600	299,756	13 82	19 62	Clay.....	Pte. aux Trembles channel.
<i>Lady Minto</i> (No. 4).....	58,186 52	183	317 96	49	15,580 00	58,807 44	84,925	299,756	18 34	19 62	Clay.....	Pte. aux Trembles channel.
				26	8,266 93	58,807 44	78,200	299,756	10 57	19 62	Clay.....	Varennes curve.
				94	29,888 16	58,807 44	125,860	299,756	23 75	19 62	Clay and embedded boulders.....	Grondines.
				14	4,451 43	58,807 44	15,100	304,085	29 48	19 13	Clay.....	Ste. Anne traverse.
<i>Lafontaine</i> (No. 5).....	74,432 36	183	406 73	39	15,862 64	58,186 52	76,800	304,085	20 67	19 13	Clay.....	Varennes curve.
				131	53,252 18	58,186 52	146,022	304,085	36 49	19 13	Shale rock.....	Cap à la Roche curve.
				13	5,287 54	58,186 52	7,500	304,085	70 50	19 13	Clay.....	Pte. aux Trembles channel.
<i>Baldwin</i> (No. 6).....	59,679 39	165	361 69	76	27,488 69	74,432 36	117,050	230,322	23 48	32 32	Clay, sand and stones.....	St. Sulpice channel.
				89	32,190 70	74,432 36	89,800	230,322	35 85	32 32	Sand (cleaning up).....	Champlain channel.
<i>J. Israel Tarte</i> (No. 7).....	123,916 33	153	809 91	77	62,363 12	59,679 39	944,651	206,850	6 60	28 85	Clay.....	Lake St. Peter (W. B. Curve.)
				76	61,553 21	59,679 39	477,491	206,850	12 89	28 85	Clay and stones.....	Lake St. Peter (Curve No. 1)
<i>Beaujeu</i> (No. 8).....	94,604 35	165	573 36	165	94,604 35	123,916 33	1,638,400	1,422,142	5 77	8 71	Sand, gravel and stones.....	North Channel West Sand (Below Quebec.)
<i>Galveston</i> (No. 9).....	84,316 97	161	523 71	161	84,316 97	94,604 35	586,100	1,638,400	14 38	5 77	Sand, gravel and stones.....	North Channel West Sand (Below Quebec.)
						84,316 97	586,100	586,100	14 38	14 38		

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<i>Dipper Dredge</i> (No. 10)	57,678 47	165	349 57	165	57,678 47	409,600	14 08	14 08	Hard pan and stones....	Floating dock approach (Montreal harbour.)
<i>Dipper Dredge</i> (No. 11)	53,694 45	167	321 52	167	53,694 45	357,000	15 04	15 04	Hard pan and stones....	Floating dock approach (Montreal harbour.)
<i>Elevator Dredge</i> (No. 12)	63,738 60	168	379 40	59	22,384 38	92,000	24 33	24 33	Shale rock and clay.....	Pré aux Trembles channel.
		109		109	41,384 22	115,071	35 93	35 93	Shale rock and boulders.	Cap Charles curve.
<i>Elevator Dredge</i> (No. 13)	41,586 39	77	510 08	77	41,586 39	187,200	22 21	22 21	Clay.....	Ste. Anne traverse.
	895,235 59	2,105		2,105	895,235 59	6,140,867				
						6,140,867				

DREDGING FLEET.

The following is a description of the dredging plant, at the end of the season of 1913, owned and operated by the Department of Marine and Fisheries in connection with the River St. Lawrence ship channel between Montreal and Father Point:—

Dredges.

The elevator dredge "Laval" (No. 1).—Wooden hull; length over all, 150 feet; breadth of beam, 30 feet; depth of hold, 14 feet; average draught, 11 feet; greatest working depth, 42 feet; hull built in Ottawa, in 1894; steel buckets; working capacity per day in hard material, 1,000 to 2,000 cubic yards.

The elevator dredge "Laurier" (No. 2).—Wooden hull; length over all, 163 feet; breadth of beam, 32 feet; depth of hold, 14 feet; average draught, 10 feet; greatest working depth, 45 feet; built at Sorel shipyard in 1897; steel buckets; working capacity per day in hard material, 1,000 to 2,000 cubic yards.

The elevator dredge "Lady Aberdeen" (No. 3).—Steel hull; length over all, 148 feet; breadth of beam, 32 feet; depth of hold, 13 feet; average draught, 8.5 feet; greatest working depth, 42.5 feet; built at Sorel shipyard in 1900; steel buckets; greatest working capacity per day in hard material 1,000 to 2,000 cubic yards.

Elevator dredge "Lady Minto" (No. 4).—Steel hull; length over all, 148 feet; breadth of beam, 32 feet; depth of hold, 13 feet; average draught, 8.5 feet; greatest working depth, 42.5 feet; built at Sorel shipyard in 1900; steel buckets; working capacity per day in hard material, 1,000 to 2,000 cubic yards.

The elevator dredge "Lafontaine" (No. 5).—Wooden hull; length over all, 168 feet; breadth of beam, 32 feet; depth of hold, 14 feet; average draught, 9 feet; greatest working depth, 45 feet; built at Sorel shipyard in 1901; steel buckets; working capacity per day in hard material, 1,000 to 2,000 cubic yards.

The elevator dredge "Baldwin" (No. 6).—Wooden hull; length over all, 165 feet; breadth of beam, 34 feet; depth of hold, 14 feet; average draught, 8 feet; greatest working depth, 42 feet; built at Sorel shipyard in 1902; 1 cubic yard buckets strengthened for fairly hard material; working capacity per day in medium material 2,500 to 3,500 cubic yards.

The hydraulic dredge "J. Israel Tarte" (No. 7).—Steel hull; length over all, 160 feet; breadth of beam, 42 feet; depth of hold, 12.5 feet; average draught, 6 feet; length of suction pipe, 80 feet; greatest working depth, 47 feet; built at Polson Iron Works, Toronto, 1902; working capacity per day in soft material, 12,000 to 20,000 cubic yards.

Discharge pipe and pontoons of dredge "J. Israel Tarte" (No. 7).—Twenty-seven lengths of pipe, 36 inches diameter by 100 feet long; one length of pipe 36 inches diameter by 35 feet long; twenty-seven pairs of pontoons for floating pipes, 42 inches diameter by 90 feet long.

Scow No. 24, pontoon anchor scow for dredge (No. 7).—Wooden hull; length over all, 63 feet; breadth of beam, 27 feet; depth of hold, 8 feet; built at Sorel shipyard in 1909.

Scow No. 27, for dredge "J. Israel Tarte" (No. 7).—Wooden hull; length over all, 60 feet; breadth of beam, 18 feet; depth of hold, 6 feet; built at Sorel shipyard in 1902.

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The sea-going suction hopper dredge "Beaujeu" (No. 8).—Steel hull; twin screw; length between perpendiculars, 264 feet; breadth of beam, 45 feet; depth of hold, 20 feet; capacity of hoppers, 2,000 cubic yards in 45 minutes; greatest working depth, 65 feet; draught when loaded, 15 feet; ordinary speed, 9 statute miles; built in Sorel shipyard in 1907.

The suction hopper dredge "Galveston" (No. 9).—Steel hull, twin screw; length over all, 233 feet; breadth of beam, 39 feet; depth of hold, 15.5 feet; draught when loaded with 1,800 tons, 14 feet 9 inches aft, and 13 feet 1 inch forward; greatest working depth, 55 feet; built in Germany, 1904; two suction pumps, Dutch type, 8.5 feet outside diameter, working capacity, 1,350 cubic yards in 45 minutes; hopper capacity, 1,500 cubic yards.

The dipper dredge "No. 10."—Steel hull; length moulded, 132.5 feet; breadth moulded, 42 feet; depth at bow, 11.5 feet; depth at stern, 9.7 feet; length of spuds, 74 feet; bucket capacity, one 11-yard for soft material, one 9-yard for hard material; capable of dredging to 50 feet; built at Sorel shipyard in 1910.

The dipper dredge "No. 11."—Steel hull; length over all, 132.5 feet; breadth moulded, 42 feet; depth at bow, 11.8 feet; depth at stern, 13.5 feet; length of spuds, 74 feet; bucket capacity, one 11-yard for soft material, one 9-yard for hard material; capable of dredging to 50 feet; built at Sorel shipyard in 1911.

The Elevator dredge "No. 12."—Steel hull; length over all, 180 feet; breadth of beam, 40 feet; depth of hold, 12.8 feet; average draught, 9 feet; greatest working depth, 52 feet; built at Sorel shipyard in 1912; steel buckets; working capacity per day in hard material, 2,000 to 4,000 cubic yards.

The Elevator dredge "No. 13."—Steel hull; length over all, 180 feet; breadth of beam, 40 feet; depth of hold, 12.8 feet; average draught, 9 feet; greatest working depth, 52 feet; built at Sorel shipyard in 1913; steel buckets; working capacity per day in hard material, 2,000 to 4,000 cubic yards.

Tugs.

The ice-breaking and emergency tug "Lady Grey."—Steel hull; twin screw; length between perpendiculars, 172 feet; length over all, 183 feet 6 inches; breadth moulded, 32 feet; breadth extreme, 32 feet 3 inches; depth moulded, 18 feet; draught mean to bottom of flat plate keel (normal), 12 feet; draught when icebreaking, about 13 feet; displacement in tons at 12 feet draught, 1,070; mean speed, at 12 feet draught, on six runs over measured mile base, 14 knots; built by Vickers, Sons & Maxim, Ltd., Barrow-in-Furness, England, 1906.

The tug "Bellechasse."—Steel hull; twin screw; length between perpendiculars, 130 feet; breadth moulded, 27 feet; draught aft, 10 feet 3 inches; draught forward, 8 feet 9 inches; indicated horse-power, 1,000; built by the Kingston Shipbuilding Company, Kingston, Ont., in 1913.

The tug "Frontenac."—Composite hull; twin screw; length over all, 113 feet; breadth of beam, 23 feet; depth of hold, 10 feet; average draught, 9 feet; built at Sorel shipyard in 1902.

The tug "De Levis."—Wooden hull; twin screw; length over all, 104 feet; breadth of beam, 20 feet; depth of hold, 10 feet; average draught, 8 feet; built at Sorel shipyard in 1902.

The tug "James Howden."—Wooden hull; twin screw; length over all, 100 feet; breadth of beam, 21 feet; depth of hold, 10 feet; average draught, 7.5 feet; built at Sorel shipyard in 1903.

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The tug "Iberville."—Steel hull; single screw; length over all, 90 feet; breadth of beam, 18 feet; depth of hold, 12 feet; average draught, 10 feet; built at Sorel shipyard in 1897.

The tug "Lac St. Pierre."—Wooden hull; twin screw; length over all, 100 feet; breadth of beam, 21 feet; depth of hold, 10 feet; average draught, 7.6 feet; built at Sorel shipyard in 1901.

The tug "Portneuf."—Wooden hull; single screw; length over all, 85 feet; breadth of beam, 17.3 feet; depth of hold, 9.8 feet; average draught, 8 feet; built at Sorel shipyard in 1905.

The tug "Chambly."—Wooden hull; single screw; length over all, 84 feet; breadth of beam, 18 feet; depth of hold, 9.5 feet; average draught, 9 feet; built at Sorel shipyard in 1893.

The tug "Emilia."—Wooden hull; single screw; length over all, 84 feet; breadth of beam, 17 feet; depth of hold, 9 feet; average draught, 8 feet; built at Sorel shipyard in 1898.

The tug "Lanoraie."—Wooden hull; single screw; length over all, 84 feet; breadth of beam, 17 feet; depth of hold, 9 feet; average draught, 8 feet; built at Sorel shipyard in 1901.

The tug "Jessie Hume."—Wooden hull; single screw; length over all, 72 feet; breadth of beam, 17.2 feet; depth of hold, 10 feet; average draught, 8.5 feet; built at St. Catherines, Ont., in 1876.

The tug "Lotbinière."—Wooden hull; twin screw; length over all, 80 feet; breadth of beam, 23 feet; depth of hold, 8 feet; average draught, 7 feet; built at Sorel shipyard in 1903.

The tug "Carmelia."—Wooden hull; single screw; length over all, 84 feet; breadth of beam, 17 feet; depth of hold, 9 feet; average draught, 8 feet; purchased in 1904.

The tug "Contrecoeur."—Wooden hull; twin screw; length over all, 90 feet; breadth of beam, 22.7 feet; depth of hold, 9 feet; average draught, 7 feet; built at Sorel shipyard in 1910.

The tug "Varennnes."—Wooden hull; twin screw; length over all, 96 feet; breadth of beam, 22 feet; depth of hold, 9 feet; average draught, 7 feet; built at Sorel shipyard in 1911.

The tug "Laviolette."—Steel hull; twin screw; length over all, 92 feet; breadth of beam, 22 feet; depth of hold, 9.3 feet; average draught, 7 feet; built at Sorel shipyard in 1912.

The tug "Lavaltrie."—Steel hull; twin screw; length over all, 92 feet; breadth moulded, 22 feet; depth moulded, 10 feet; average draught, 6 feet 6 inches; built at Sorel shipyard in 1913.

Coal barges, etc.

Coal barge "No. 1."—Wooden hull; length over all, 120 feet; breadth of beam, 24 feet; depth of hold, 10 feet; built in Sorel shipyard in 1898.

Coal barge "No. 2."—Wooden hull; length over all, 125 feet; breadth of beam, 25 feet; depth of hold, 11 feet; built at Sorel shipyard in 1900.

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Coal barge "No. 3."—Wooden hull; length over all, 98 feet; breadth of beam, 28 feet; depth of hold, 12 feet; built at Sorel shipyard in 1902.

Coal barge "No. 4."—Wooden hull; length over all, 98 feet; breadth of beam, 28 feet; depth of hold, 12 feet; built at Sorel shipyard in 1903.

Coal barge "No. 5."—Steel hull; length over all, 127 feet; breadth of beam, 32 feet; depth of hold, 10 feet; built at Sorel shipyard in 1911.

Stone-lifter "No. 3."—Wooden hull; length over all, 108 feet; breadth of beam, 34 feet; depth of hold, 14 feet; built at Sorel shipyard in 1903.

Stone-lifter "No. 4."—Steel hull; length over all, 100 feet; breadth of beam, 32 feet; depth of hold, 12 feet; built at Sorel shipyard in 1910.

Rock cutter "No. 1."—Steel hull; length over all, 100 feet; breadth of beam, 36 feet; depth of hold, 9.3 feet; weight of ram, 20 tons; hull and machinery built by the Lobnitz & Co., Renfrew, Scotland, and re-erected at Sorel shipyard in 1912.

The Self-propelling Hopper barge "No. 1."—Steel hull; single screw; length between perpendiculars, 180 feet; breadth moulded, 32 feet; depth moulded, 14 feet 6 inches; average draught, 12 feet; deadweight on above draught, 785 tons; indicated horse-power, 500; net capacity of hopper, 530 cubic yards; built by Messrs. Geo. T. Davie & Sons, Levis, Que., in 1913.

Sounding scow "No. 1."—Wooden hull; length over all, 60 feet; breadth of beam, 25 feet; depth of hold, 6 feet; built at Sorel shipyard in 1898.

Sounding scow "No. 2."—Wooden hull; length over all, 75 feet; breadth of beam, 38 feet; depth of hold, 5 feet; transferred from Prescott agency in 1909, remodelled and improved in Sorel shipyard.

Sounding scow "No. 3."—Wooden hull; length over all, 76 feet; breadth of beam, 32 feet; depth moulded, 7 feet 4½ inches; built at Sorel shipyard in 1913.

Floating shop.—Wooden hull; length over all, 90.3 feet; breadth of beam, 25 feet; depth of hold, 9 feet; one forge; one scraper; one emery wheel; one drill; one lathe; one 6-horsepower Foss gasoline engine; living quarters for four men; built at Sorel shipyard in 1908.

Scow "No. 28."—Winch scow used for fleet in general; length over all, 60 feet; breadth of beam, 18 feet; depth of hold, 7 feet; built at Sorel shipyard in 1908.

Scow "No. 21."—Winch scow used for fleet in general; length over all, 40 feet; breadth of beam, 20 feet; depth of hold, 6 feet; built at Sorel shipyard in 1908.

Hopper Dumping Scows with Hydraulic Power for Closing Gates.

No. 1 and No. 2.—Wooden hulls; with hydraulic power for closing gates; length over all, 97 feet; breadth of beam, 24.5 feet; depth of hold, 9 feet; capacity, 200 cubic yards; built at Sorel shipyard, 1897.

No. 3 and No. 4.—Wooden hulls; with hydraulic power for closing gates; length over all, 90 feet; breadth of beam, 18 feet; depth of hold, 7 feet; capacity, 150 cubic yards; built at Sorel shipyard in 1898.

No. 5, No. 6, No. 7, and No. 8.—Wooden hulls; with hydraulic power for closing gates; length over all, 97 feet; breadth of beam, 24 feet; depth of hold, 9 feet; capacity, 200 cubic yards; built at Sorel shipyard in 1899 and 1901.

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No. 9, No. 10, No. 11, No. 12, and No. 13.—Wooden hulls; with hydraulic power for closing gates; length over all, 98 feet; breadth of beam, 24 feet; depth of hold, 9.5 feet; capacity, 300 cubic yards; built at Sorel shipyard, two in 1901 and three in 1902.

No. 14, and No. 15.—Wooden hulls; with hydraulic power for closing gates; length over all, 97 feet; breadth of beam, 24.5 feet; depth of hold, 9 feet; capacity, 300 cubic yards, built at Sorel shipyard in 1904 and 1905.

No. 16, and No. 17.—Wooden hulls; with hydraulic power for closing gates; length over all, 93 feet; breadth of beam, 24.5 feet; depth of hold, 8 feet; capacity, 250 cubic yards; built at Sorel shipyard in 1909.

No. 18, and No. 19.—Wooden hulls; with hydraulic power for closing gates; length over all, 93 feet; breadth of beam, 24.5 feet; depth of hold, 8 feet; capacity, 250 cubic yards; built at Sorel shipyard in 1911.

Two dumping scows.—Wooden hulls; with hydraulic power for closing gates; length over all, 93 feet; breadth of beam, 26.5 feet; depth of hold, 8.5 feet; capacity 250 cubic yards; built at Sorel shipyard in 1912.

No. 22, and No. 23.—Wooden hulls; with hydraulic power for closing gates; length over all, 93 feet; breadth of beam, 26.5 feet; depth of hold, 8.5 feet; capacity, 200 cubic yards; built at Sorel shipyard in 1913.

No. 25, and No. 26.—Steel hulls; with hydraulic power for closing gates; length over all, 100 feet; breadth of beam, 29 feet; depth moulded, 9 feet 3 inches; capacity, 235 cubic yards; built at Sorel shipyard in 1913.

Sand scow.—Steel hull; with hydraulic power for closing gates; length over all, 106.5 feet; breadth of beam, 21 feet; depth of hold, 10 feet; capacity, 200 cubic yards; built at Sorel shipyard in 1912.

Derrick scow.—Used at Sorel shipyard in connection with construction and repairs to dredging fleet; length over all, 40 feet; breadth of beam, 20 feet; depth of hold, 5 feet; equipped with a derrick of 5-tons lifting capacity.

APPENDIX No. 4.

SOREL SHIPYARD.

SOREL, April 30, 1914.

A. JOHNSTON, Esq.,
Deputy Minister, Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit the following report on work done at the Sorel shipyard during the year ending March 31, 1914.

At the beginning of the fiscal year, all vessels were outfitted, overhauled, and made ready for the season's operations. In April the crews were taken on and all the necessary supplies were put on board.

The Richelieu river was clear of ice on the 28th March, and the St. Lawrence on the 12th April. The first dredges left Sorel on April 22, to be placed at work in the ship channel.

During the season, all the vessels of the dredging fleet were maintained in good order, and had the necessary operating repairs.

The principal repairs to the ship-channel vessels during the fiscal year were the following:—

DREDGES.

Dredge No. 1.—Had operating repairs during the season.

Nos. 2, 3, 4 and 5.—Winter repairs to deck, hull, windlass, and overhauling of machinery.

Dredge No. 6.—Had operating repairs during summer.

Winter repairs.—The hull, deck and windlass were put in good order. Machinery was overhauled and repaired. A new shoot pump, 8 by 6 cylinders and 12-inch stroke (duplex pattern) was installed on board.

Dredge No. 7.—This vessel had ordinary repairs during summer. Casting at end of cutter head was repaired. The twelve furnaces on the four boilers were welded by electricity, and made tight.

The dredge was brought to Sorel for these repairs, and during her stay here few other repairs and alterations were made.

Winter repairs.—The fenders of hull were partly renewed; cotton duck awnings installed to replace wooden panels, two new funnels were made and installed to replace old ones and the discharge pipe outside of hull was renewed. Alterations were also made to Howden's forced-draught apparatus, and repairs to deck-houses and general overhauling of machinery. Twenty-four pontoons were hauled out to renew doubling plates which were cleaned and painted.

Dredge No. 8.—Summer repairs: This vessel operating below Quebec, the repairs during the season were made there. Few replace pieces were sent from the shipyard to be installed on board.

Winter repairs.—The inside of boat between frames opposite hoppers was all cleaned by the sand-blast process. Old fenders were partly repaired and new ones fitted between angles all around the hull. The centrifugal pump which was worn out, was saved by adding doubling plates inside and all welded with our electric welding plant.

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A new cutter-head was placed on the suction frame. The discharge pipe of the centrifugal pump was altered and made to discharge overboard in scows. A new companion-way was made in fireman's quarters and one in crew's quarters. All engines, winches, and boilers were overhauled and worn parts renewed.

Dredge No. 9.—Summer repairs were general operating repairs made during the season.

Winter repairs.—The compartment opposite hoppers was cleaned with sand-blast, and painted. The fenders were put in good order, the deck over forecastle was strengthened and caulked.

A new dynamo was installed to replace old one which was too small and out of order. This change necessitated heavy alterations to the electric wiring of the vessel.

Three 30-inch gate-valves were made for the discharge pipe of the centrifugal pump and the pipe was renewed.

Main engine high-pressure cylinders were taken to the machine shop to repair seats and valves. Boilers were repaired and the right hand furnace of starboard boiler was welded by electricity, a new funnel with casing was made and installed on board and the winches were overhauled and repaired.

Dredge No. 10.—This dredge had ordinary repairs during summer, mostly on buckets.

Winter repairs.—An iron casing around funnel was placed to protect the deck-houses against fire. Light repairs were made to deck-houses and fenders. A new dipper arm, 50 feet long, was made and installed, so that the vessel could dig in shallow water—that is, about 16 feet depth. Main hoisting drum frictions were lined with maple wood, and other minor repairs were made to machinery.

Dredge No. 11.—This dredge had ordinary operating repairs, mostly on buckets.

Winter repairs.—General overhauling of machinery and repairs to hull, dipper arm and buckets were made.

On this dredge and on *No. 10* we tried to keep the anchor spuds in place for wintering, instead of unshipping them and a very good success was obtained.

Dredge No. 12.—This is a new steel vessel which was placed in commission for about one year, and did not require any summer repairs.

Winter repairs.—General overhauling of machinery and repairs to fenders were made.

Dredge No. 13.—This is also a new steel dredge which was placed in commission during summer. Very light repairs were required. Had general overhauling of machinery during winter.

Dredges Nos. 1 to 6, 12 and 13.—Those dredges had all their steel buckets repaired or renewed, and links rebushed. The buckets required, including spare ones for next season, number about 500.

REPAIRS TO DOMINION STEAMERS.

Steamer "Lady Grey."—At the beginning of the season, the bulwark, which was bent by the ice the previous winter, was straightened up and put in good order.

The two masts for wireless service were lengthened, main and auxiliary engines overhauled. The vessel was painted inside and outside and the upper deck repaired and caulked.

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Steamer "Frontenac."—This ship had only ordinary repairs to machinery during summer. The 5 by 5 inch windlass was changed for a 6 by 5 inch of the same make. A new steel rudder was made to replace the old wooden one. The engine, boiler, and deck-houses were repaired and put in good order.

Steamer "Bellechasse."—Electricians were sent a couple of times to Quebec to repair the electric wiring and turbo generator of this vessel.

Winter repairs.—A water tight door, a refrigerator and a gasoline launch were supplied, besides a good overhauling and repairs to both dynamos.

TUGS.

Tug "Carmelia."—This vessel was hauled out on the slipway on 29th August, 1913, to have her tail shaft repaired.

Winter repairs.—General overhauling of engine, boiler and smoke box was made.

Tug "Chambly."—The tug had no summer repairs.

Winter repairs.—Consisted of extra heavy repairs and alterations to boiler; water pan removed, and about 100 boiler tubes renewed.

Was hauled out for winter to repair hull, renew stern tubes and propeller. Deck-houses were lengthened about 7 feet to put cooks' room on main deck. The hull was scraped and painted, and part of old deck-houses rebuilt. Old windlass of C. G. S. *Frontenac* was installed on board.

Tug "Contrecoeur."—This boat was hauled on July 31, to have her rudder repaired, was hauled out again on November 25, to put on a new propeller. The hull was scraped and painted. On December 1, she was hauled on the slipway again for renewing *lignum vitæ* bushes, and caulking of hull.

Ordinary winter repairs were made to engines and boiler, also to woodwork.

Tug "De Levis."—The *De Levis* had no repairs during summer, was hauled out on September 29, to repair the rudder and have some caulking done to the hull, was hauled out again on December 6, to repair outside planking under the water line.

Hull repairs.—A steel rudder was made to replace old wooden one.

Tug "Emilia."—Summer repairs: She was hauled out on the ways on August 12, to caulk her hull, which was also scraped and painted.

Winter repairs.—She had heavy repairs on boilers, water pan was removed and sixty-six boiler tubes renewed, and deck-houses partly rebuilt.

Tug "Jessie Hume."—This tug had ordinary repairs during summer, and general overhauling of machinery, during winter.

Tug "James Howden."—This vessel was operating below Quebec during summer, with dredges *Beaujeu* and *Galveston*, and repairs were made there. Replace parts were ordered and shipped direct from shipyard.

Winter repairs.—General repairs to wood work and hull were made.

Tug "Iberville."—Summer repairs: She was hauled out on 27th August, to renew her propeller, scraping and painting her hull.

Winter repairs.—Heavy repairs to boilers were made, several tubes removed to clean inside of boiler, and combings of deck-houses renewed. The inside of hull was scraped and painted, deck caulked and general overhauling of engines made.

Tug "Lac St. Pierre."—This tug had light repairs during summer, hauled out on November 18, to renew *lignum vitæ* bushes; steel sheeting of hull repaired; hull scraped and painted.

During winter she had ordinary repairs and overhauling to hull and machinery.

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Tug "Laviolette."—This is a new boat, and had practically no repairs during summer, but a general overhauling during winter.

Tug "Lanoraie."—Was hauled out on the 11th September, to renew propellers. The hull was caulked, scraped, and painted, and few other light repairs made to machinery during summer.

Winter repairs.—Overhauling of machinery, etc.

Tug "Lavaltrid."—This being a new vessel, no repairs were required during summer and very light during winter.

Tug "Lotbinière."—Was hauled out on the 25th September, to replace her rudder, scrape and paint the hull.

Tug "Portneuf."—Light repairs were made during season and was hauled out on the 21st August to renew *lignum vitæ* bushes of tail shaft. The hull was scraped and painted. She was again placed on slip-way on 13th September to repair her rudder.

Tug "Varennés."—This vessel had very light operating repairs and general overhauling of machinery during the winter.

Rock Cutter and Stonelifters.

Rock cutter.—Had no operating repairs except general overhauling of machinery during winter.

Stone lifters Nos. 2, 3 and 4. During winter these vessels had ordinary repairs to machinery.

SOUNDING SCOWS.

Sounding scow No. 1.—Had light repairs.

Sounding scow No. 2.—Was hauled out on June 17, on January 28 and 4th December for caulking. This boat is old and temporary repairs only were made so as to keep her in commission.

Sounding scow No. 3.—Was hauled out on July 25 for repairs to rudder.

DUMPING SCOWS.

Fourteen dumping scows were hauled out for repairs during the season. The winch scow of dredge *No. 7* was also taken up for winter, to have her bottom repaired and caulked.

Dumping scow No. 2.—Was rebuilt from water line up and had new hoppers and doors.

COAL BARGES.

Coal barge No. 1.—Was hauled out on September 29, to have rudder repaired and hull caulked.

Winter repairs.—The hatches were widened, had two masts replaced by a single one and combing of deck-houses renewed. During winter she had general repairs to hull, deck-houses and winches.

Coal barge No. 2.—Summer repairs: The barge was hauled out on September 23, to repair and caulk the hull. Hatches were widened, alterations made to masts and extension to deck-house.

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Coal barge No. 3.—Had no repairs during summer. Ordinary overhauling to hull and winches was made during winter.

Coal barge No. 4.—General repairs to hull and winches were made and widening of hatches.

Coal barge No. 5.—Had repairs to fenders, windlass, steering gear and general overhauling during winter.

Shipyards launches were repaired and put in good order.

All the above-mentioned vessels were painted, as usual, early in spring.

Tug "O. Paul."—Was hauled out on June 13, but repairs were made by the proprietor of the boat.

Lightship No. 17 (Quebec Agency).—Was taken to Sorel during the summer. The machinery was dismantled and shipped to Prescott and the boat kept there for wintering.

Gauge houses (river St. Lawrence ship channel).—Six gauge houses were erected and installed on the St. Lawrence by our men, under the supervision of Mr. Price, from Ottawa, and all necessary supplies in connection with them taken from the shipyard.

REPAIRS TO VESSELS OF CONSTRUCTION AND MAINTENANCE OF LIGHTS BRANCH, DEPARTMENT
MARINE AND FISHERIES.

Steamer "Dollard."—This vessel was built at Collingwood and put in commission during summer, and was sent to Sorel to have her main hoisting-winch for handling buoys installed. All the wooden decks had to be recaulked. The hoisting arrangements of the derrick and buoy lifting-gear had to be altered. The boat was partly repainted and varnished.

A complete set of manila rope fenders was prepared and installed on board. A good many other alterations and new work had to be done during the time the boat remained here, about three weeks. When the vessel went to work, it was found that her rudder was too small, and the steering gear not powerful enough to handle the boat. At the end of the season, after picking up the buoys, the *Dollard* took her winter quarters at the shipyard, where numerous alterations were made.

The fore-castle deck was sheathed with $\frac{3}{4}$ -inch wood. The main engine overhauled, boilers caulked, light repairs to deck-houses made, the rudder enlarged, and the steering gear replaced by a stronger one.

The steel platform inside of engine room was extended and widened to make room for the hand pump.

Steamer "Verchères."—She was hauled out on the ways on 6th September, to have her hull caulked. Light repairs were made to different parts of the boat.

Steamer "Shamrock."—Was hauled out on 15th October, to repair and caulk her hull under water line, and had light repairs during summer.

Winter repairs.—Consisted of general overhauling of machinery, winches, windlass and hull.

Tug "Maisonnette."—Was sold to a private firm in Ontario. On the 22nd April, the boat was hauled out to repair the hull under water line, so as to make her seaworthy for a trip to the Great lakes.

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Steamer "Hosanna."—This vessel had no repairs during summer, and winter repairs consisted of heavy repairs to hull above water line, the partly rebuilt, bulwark rail renewed, the cotton duck of upper deck repaired and overhauling of boiler and engine.

Scow "Adelard."—Was hauled out on November 5, and steel sheeting placed on bow and sides of hull at the water line.

CONSTRUCTION OF LIGHTS BRANCH.

A good deal of work was done for this department, preparing supplies and repairing their machinery, such as winches, concrete mixer, etc.

Barge "Acetylene."—During summer, all necessary equipment was supplied to this vessel for the maintenance of buoys, such as chains, slings, buoy irons, fittings, etc.

Winter repairs.—Railings, house pipe, fenders, derrick were put in good order, and a coat of paint put on inside and outside of boat.

REPAIRS TO VESSELS OF THE DEPARTMENT OF PUBLIC WORKS.

Dredge "W. S. Fielding."—During the year one cast steel bucket was shipped to St. John, N.B., for this vessel, one cast-steel bucket roller, and cast-steel plate rollers, one cast-steel shell for lower tumbler were supplied, five cast-steel shoes for upper tumbler, and five steel bushes for lower tumbler were ordered and supplied.

Dredge "Richelieu."—Had repairs to crane, to swinging table and dipper, etc., etc.

Dredge "Challenge."—Spud anchors were placed on this vessel, her machinery overhauled and a shaft repaired.

Dredge "St. Louis."—Repairs were made to swinging-table levers. Renewal parts were prepared here and other light repairs to the machinery. The pump was put in good order, machinery and hull had light repairs.

Dredge No. 123.—This boat came to the shipyard to be rigged up after its completion. A crane anchor, spuds, dipper-arms and dipper were installed and a few alterations made to the machinery.

The "Mina G."—Had light repairs to engine.

The "Maggie K."—The engine of this tug was repaired.

Dredge No. 3.—The dumping lever "A" frame and dipper door of this vessel were repaired.

Tug "Deslisle."—Was hauled out on the 25th August, to have hull caulked.

Tug "Daisy."—Was hauled on the ways on 28th July to repair tail shaft and have hull caulked and fitted to propeller wheel.

Tug "Alva."—Was hauled out on the 11th June to repair rudder and caulk hull, and tighten stern bearing. Was hauled again on the ways on the 25th September to repair tail shaft.

NEW CONSTRUCTIONS.

Work was continued on construction No. 36—a twin screw steel tug of the following dimensions:—

Length, B.P.	84 ft. 6 in.
" O.A.	92 ft. 0 in.
Breadth, moulded.	22 ft. 0 in.
Depth, moulded.	10 ft. 0 in.
Mean draught on trial.	6 ft. 6 in.
Indicated horse-power on trial.	350

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The vessel was completed, and after a successful trial trip on June 3, 1913, was at once put into commission. The mean speed on trial was 11:32 miles.

The machinery consists of twin-screw compound jet condensing engines having cylinders 11 inches and 22 inches diameter by 18-inch stroke, supplied with steam from a Scotch boiler 12 feet diameter by 10 feet long, with a working pressure of 150 pounds. The vessel was named *Lavaltrie*.

Construction No. 37 was completed.—This vessel is a steel non-propelling elevator dredge of the following dimensions:—

Length, O.A.	180 ft. 0 in.
Breadth, moulded.....	40 ft. 0 in.
Depth, moulded.....	14 ft. 0 in.
Draught loaded.....	9 ft. 0 in.

The dredging machinery is a compound jet condensing engine built by Fleming and Ferguson, Paisley, Scotland, having cylinders 17-inch and 34-inch by 36-inch stroke, supplied with steam from two Scotch boilers 12 feet diameter by 10 feet long, with a working pressure of 130 pounds. The machinery developed 450 indicated horse-power. The buckets are forty-three in number of 16 cubic feet capacity. The dredging speed is sixteen buckets per minute. The dredge was completed in August and at once started working, everything working satisfactorily until laying up for the winter. This vessel is named *Dredge No. 13*.

Construction No. 39. A wooden scow 76 feet by 32 feet by 7 feet 4½ inches, was completed in June, 1913. She is fitted with testing-bar and winch, and is used for testing the channel.

Construction No. 43 is two wooden dump scows Nos. 22 and 23, having a capacity of 200 yards and fitted with hydraulic machinery for the hopper doors. The dimensions are 93 feet by 26 feet 6 inches by 8 feet 6 inches. They were finished in July, 1913.

Construction No. 44 is a steel stone lifter (*Stone lifter No. 5*) fitted with steam winch and stone grips capable of lighting stones up to 60 tons in weight. She was completed in September, but was not put in commission. The dimensions are 100 feet by 36 feet by 9 feet 10 inches.

Constructions Nos. 45 and 46 are two new tugs of the following dimensions:—

Length, B.P.	93 ft. 0 in.
“ O.A.	100 ft. 0 in.
Breadth, moulded.....	22 ft. 6 in.
Depth, moulded.....	10 ft. 0 in.
Draught mean	7 ft. 0 in.
Indicated horse-power	450

The machinery consists of twin-screw compound jet condensing engines having cylinders 12-inch and 24-inch diameter by 18-inch stroke supplied by steam from a Scotch boiler 13 feet 6 inches diameter by 10 feet 6 inches long, with a working pressure of 130 pounds. The engines in No. 45 were built by Pontbriand Company, Limited, of Sorel; those for No. 46 are being built in the shipyard. The boilers were purchased in Lévis. These tugs are completed as far as the hulls are concerned; and as soon as the shafting and propellers are installed, in the spring, they will be launched, probably in the month of May, 1914. These tugs are having fire pumps installed of a capacity of 1,200 gallons per minute.

Constructions No. 47 to 50 are four steel dumping scows of the following dimensions:—

Length	140 ft. 0 in.
Breadth, moulded.....	30 ft. 0 in.
Depth, moulded	11 ft. 9 in.
Capacity	450 cubic yards.

These scows are practically completed and will be launched during the month of May, 1914.

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Constructions Nos. 51 and 52 are two steel dumping scows (*Nos. 25 and 26*) of the following dimensions:—

Length	100 ft. 0 in.
Breadth, moulded	29 ft. 0 in.
Depth, moulded	9 ft. 3 in.
Capacity	235 cubic yards.

They were launched in July and August, 1913. They are the first steel dumping scows used in the ship channel, and have proved very satisfactory.

Construction No. 53 is a gasoline launch, (*Margot*) built of wood for general shipyard use, of the following dimensions:—

Length	30 ft. 0 in.
Breadth, moulded	7 ft. 0 in.
Depth, moulded	3 ft. 6 in.
Draught of water, mean	2 ft. 3 in.

She is fitted with a "Standard" heavy duty engine of 25 horse-power, and has a speed of 11½ miles. She was launched in August, 1913.

Construction No. 54 is a twin-screw steel, wood sheathed, fisheries patrol steamer for lake Winnipeg, of the following dimensions:—

Length, B.P.	151 ft. 0 in.
" O.A.	160 ft. 6 in.
Breadth, moulded	26 ft. 6 in.
Depth, moulded	13 ft. 6 in.
Draught	7 ft. 6 in.
Indicated horse-power	900

The vessel was ordered in May, 1913, and the steel was ordered on June 11, but delivery was not completed of the steel until December. On July 2 work on drawings was stopped, and amended design prepared by order of the deputy minister. This was submitted on July 14, and it was decided to proceed on the original design. On August 18 the line drawing was submitted, and after some discussion an amended line drawing, with an altered general arrangement, was submitted on September 1, work being suspended pending a decision on the alterations. On October 16 orders were received to proceed with the vessel, making her 11 feet longer. The new design was approved on October 29, and work commenced in the mould-loft on November 17. The steel work was commenced on December 23, and the keel was laid on January 23, 1914. The whole of the steel work, amidships, is finished, and as soon as the cast-steel stem and stern posts are received, the balance of the work will be completed. This should be by the end of May, 1914. The vessel has then to be marked, taken down, and shipped to Selkirk, Man., where it will be re-erected, launched and completed by men sent from the shipyard. Most of the auxiliaries and fittings have been ordered and the engines which are twin-screw, triple expansion jet condensing engines, having cylinders 11-inch, 18-inch and 30-inch diameter by 20-inch stroke, supplied with steam from two Scotch boilers 11 feet diameter, by 10 feet 6 inches long, working under Howdens forced draught, and having working pressure of 180 pounds. The engines are being built by the Polson Iron Works of Toronto.

Constructions Nos. 55 and 56 are two catamarans, each consisting of two steel circular pontoons with pointed ends, 30 feet long by 3 feet diameter. They are 12 feet apart and strongly braced together with steel girders which support a deck about 20 feet by 18 feet. These catamarans are for the use of the St. Lawrence Levels Commission, and are equipped with winches, etc., for handling current-meters.

Construction No. 57 is a twin-screw steel testing steamer of the following dimensions:—

Length, B.P.	140 ft. 0 in.
" O.A.	147 ft. 0 in.
Breadth, moulded	35 ft. 0 in.
Depth, moulded	15 ft. 0 in.
Draught	10 ft. 0 in.

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The vessel will be fitted with twin-screw compound surface condensing engines having cylinders 14 inches and 28 inches diameter by 21 inches stroke, supplied with steam from a Scotch boiler 15 feet diameter by 11 feet long, and having a working pressure of 130 pounds. The vessel will be equipped with a testing bar and winch similar to those fitted on the testing-scow, and will be arranged to test to 55 feet of water.

Plans have been prepared, steel material ordered, and the vessel has been laid off in the mould loft and everything prepared to make a start as soon as the steel arrives, which should be during the month of May. The boiler material has been delivered.

Construction No. 58 is a wooden flat scow for general shipyard use, of the following dimensions:—

Length.....	60 ft. 0 in.
Breadth	28 ft. 0 in.
Depth.....	7 ft. 0 in.

This vessel will be launched during the month of May.

Construction No. 59 is a twin-screw steel tug for staff use below Quebec, and will replace the *James Howden*.

Length.....	118 ft. 0 in.
Breadth, moulded.....	24 ft. 0 in.
Depth, moulded.....	12 ft. 0 in.

The machinery will consist of twin-screw compound surface condensing engines having cylinders 14 inches and 28 inches by 21 inches stroke, supplied with steam from a Scotch boiler 15 feet diameter by 11 feet long, 130 pounds working pressure. The boiler-material has been delivered.

Construction No. 60 is a single-screw steamer for buoy service on the Ottawa river, and will be composite built, of the following dimensions:—

Length.....	100 ft. 0 in.
Breadth.....	21 ft. 0 in.
Depth.....	9 ft. 0 in.

The machinery will consist of compound jet condensing engines having cylinders 10 inches and 20 inches diameter by 14 inches stroke, supplied with steam from a Scotch boiler 9 feet 6 inches diameter by 10 feet long, working pressure 130 pounds. The boiler material is ordered. Tenders have been asked for the engines of *Nos. 57, 59 and 60*.

Construction Nos. 61 and 62 are two single-screw hopper barges of the following dimensions:—

Length, B.P.	210 ft. 0 in.
Breadth, moulded	35 ft. 0 in.
Depth, moulded	10 ft. 0 in.
Draught, loaded	16 ft. 6 in.
Capacity of hopper	950 cubic yards.

Machinery will consist of triple expansion surface condensing engines having cylinders 18½ inches, 30 inches and 50 inches diameter by 36 inches stroke, supplied with steam from two Scotch boilers 14 feet 6 inches by 10 feet 6 inches long, 180 pounds working pressure. Indicated horse-power, 1,250.

Construction No. 63 is a single-screw steel barge of the following approximate dimensions:—

Length	160 ft. 0 in.
Breadth.....	32 ft. 0 in.
Depth	12 ft. 6 in.
Capacity.....	700 tons.

The design of the barge will be commenced as soon as possible.

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Constructions Nos. 64 to 67 are four steel dumping scows of the following dimensions:—

Length.....	100 ft. 0 in.
Breadth.....	29 ft. 0 in.
Depth.....	10 ft. 3 in.
Capacity.....	250 cubic yards.

These scows will be similar to *Nos. 51 and 52*, but 1 foot deeper. Drawings and steel orders are being prepared.

Progress on new constructions has generally been hampered owing to the great length of time elapsing between the ordering of the steel material and its delivery—for example: *Constructions Nos. 45 and 46*, the requisition for steel was sent August 17, 1912, and *Nos. 47 to 50*, on September 9, 1912; none of this material was delivered before the middle of March, 1913, and was not completed until May 29. As already stated in this report, the material for *No. 54* was ordered in June, 1913, and delivery was not completed until December. As regards *No. 57*, the detail specification of steel was sent January 21, 1914, and none has been delivered. A contract is being placed for 2,500 tons of steel to cover the new constructions which will be commenced during the coming year.

MAINTENANCE AND IMPROVEMENTS TO BUILDINGS AND PLANT OF THE SHIPYARD.

Building No. 1.—Proposed office. Plans prepared.

Building No. 2, boiler shop.—Roof repaired and painted.

Building No. 4, office and store.—Outside of building painted and few alterations were made inside.

Building No. 5, machine shop.—Interior of building was whitewashed to improve its lighting.

Buildings Nos. 6, 7 and 8.—Had roof repaired and painted.

Building No. 9, carpenter shop.—Was lengthened 20 feet to give more working space, and ten windows were made to improve lighting.

Buildings Nos. 10, 11, 12, 13 and 14, ice house and stores shed.—The roof was painted.

Building No. 15, storage for fleet.—Had extra partitions made for new boats in commission.

Building No. 16, power-house.—A temporary house was built over the new air compressor, concrete made around machinery and roof of building painted.

Buildings No. 17 and 18, saw-mill and paint-shop.—These buildings had no repairs.

No. 19, pattern shop.—New shelves to store patterns.

Nos. 20, 21 and 22, dry lumber shed, fire-hold No. 2 and shed for castings.—No repairs were required on these buildings.

Nos. 23 and 24, dry kiln and shed for machinery.—The roof was painted.

No. 25.—Was demolished.

Nos. 26 and 27, main gear-house and lumber-yard shed.—Had no repairs.

No. 28, oil shed.—This is a new fireproof building. The lower story was built in concrete, upper story of steel and corrugated sheeting with steel frames and doors.

No. 29, new joiner shop.—New one-story building, erected in line and next to No. 20. The dimensions are 87 feet by 41 feet.

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New sheer legs. A 130-ton steel crane was erected on concrete pier near wharf No. 4. Small building was also built to cover machinery.

Wharf No. 4.—So as to have more coaling space a new 100-foot extension was built. Heavy repairs had also to be made to this wharf.

Time recorders.—During the year a new system of time clocks was installed in the shipyard. Thirteen "Globe" W. A. Wood time recorders were purchased and placed in the shipyard. This system is giving very good results.

Fire protection.—During winter two tugs were kept under steam, night and day, with firemen on board for fire protection to vessels of fleet.

Steam box.—A new steam box 24-inch by 24-inch by 60 feet long was built in steel for the carpenters' department.

Air compressor.—As the work increased considerably and the air pressure for tools was very inadequate, another air compressor was purchased to be placed in power-house. This is a Canadian-Ingersoll-Rand, 16 by 16, class "RP—2," cross compound power-driven compressor, having a capacity of 744 cubic feet free air per minute when running at its normal speed of 200 r.p.m.

In connection with the air compressor service, a new motor was installed. This is a 125 horse-power, 600 r.p.m., 2,200 volt, 30-cycle two-phase inductor motor, complete with pulley 28 inches diameter by 16 inches face, sliding base, and T-20 B. controller for Rheostat for one-minute starting service.

Drinking water.—Water-pipe connections were made to St. Joseph waterworks to supply fresh water to the shipyard from river St. Lawrence, for drinking purposes only, as the water from the port of Richelieu river was considered unwholesome for our men.

Electric welding plant.—So as to repair castings and heavy pieces of machinery on vessels, a 400 ampere O. & C. electric welding and cutting outfit was purchased, and installed in the shipyard. The outfit is complete with dynamotor, switchboard, shields, electrodes, etc. The switchboard is equipped for two operators using the metal electrodes, each operator having free range of current. The work performed by this process is quite satisfactory, and boilers, heavy castings, etc., are rapidly and economically repaired without having to be taken out of the ships.

Sand blasting.—As we always have a great amount of cleaning and scaling to do on hulls of fleet vessels, it was found necessary to purchase an apparatus for this kind of work. It is a No. 1 Farnham sand blast apparatus, 500 pounds capacity, with complete outfit. This plant is highly satisfactory and is constantly at work during the season, cleaning the hulls of the various boats and dredges, for the spring painting, etc.

General.—All the shipyard buildings were kept in good order, and the machinery overhauled and improved.

The vessels of the dredging fleet were all painted before the opening of navigation, and, as usual, the ice was cut around them during winter. All roads were maintained in good order. Fences and sheds were whitewashed.

All wharfs and ways had the ordinary repairs and were kept in good condition.

The force employed during the fiscal year varied from 654, in June, to 1,181, in March, 1914, and averaged 836 daily.

The financial statement shows the total amount expended at the shipyard and ship channel to have been \$1,466,591.40.

I have the honour to be, sir,

Yours faithfully,

W. S. JACKSON,

Superintendent of Shipyard.

STATEMENT of Expenditure Government Shipyard, Sorel, on account of River St. Lawrence Ship Channel for the Fiscal Year ending March 31, 1914.

	Fuel.		Wages.		Board.		Supplies.		Main- tenance and Repairs.		Proportion of General Expenditure		Total for each Vessel.		Grand Total.
	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	
Operating Expenses of Dredging Fleet — River St. Lawrence Ship Channel.															
Dredge No. 1.....	6,697	89	8,888	78	2,917	19	2,849	96	13,653	35	2,399	26	37,406	43	
Tug Varennes.....	4,383	94	5,228	87	2,108	84	1,218	71	2,171	89	1,035	74	16,147	99	
Dredge No. 2.....	7,397	56	8,955	16	2,934	42	2,513	34	17,711	00	2,707	97	42,219	45	
Tug Chambly.....	2,533	28	4,610	24	1,753	15	619	80	5,607	37	1,036	53	16,160	37	
Dredge No. 3.....	7,289	55	9,007	16	2,924	94	1,969	30	14,392	55	2,438	76	38,022	26	
Tug Emilia.....	2,724	53	4,069	93	1,530	69	1,721	81	3,481	02	927	16	14,455	14	
Dredge No. 4.....	6,817	05	9,448	92	2,934	95	2,736	69	10,624	94	2,231	72	34,794	27	
Tug Ilerville.....	3,822	53	4,833	28	1,826	38	963	78	4,521	85	1,094	38	17,062	20	
Dredge No. 5.....	11,088	05	9,781	37	3,103	60	5,214	78	18,449	24	3,261	44	50,848	48	
Tug Lac St. Pierre.....	5,246	78	4,967	72	1,966	46	2,029	98	1,936	22	1,106	67	17,253	83	
Dredge No. 6.....	6,641	55	8,953	74	2,856	96	2,569	18	18,508	51	2,709	24	42,239	18	
Tug Lanoraie.....	2,337	52	4,080	02	1,576	54	978	02	1,419	45	712	61	11,110	16	
Dredge No. 7.....	28,384	76	16,535	98	5,045	96	5,397	18	35,368	87	6,218	49	96,951	24	
Tug Lobinière.....	3,621	63	5,423	37	2,025	89	891	73	2,233	50	972	95	15,169	07	
" Carmelia.....	2,151	68	2,348	91	826	99	702	85	2,431	83	579	97	9,042	23	
Dredge No. 8.....	22,019	48	15,814	77	4,729	59	3,699	37	30,696	80	5,274	55	82,234	56	
" 9.....	17,127	98	13,733	22	3,843	87	4,474	32	28,153	08	4,614	72	71,947	19	
Tug James Howden.....	3,772	76	5,247	58	1,890	41	1,552	57	5,535	12	1,233	55	19,231	99	
Dredge No. 10.....	8,241	39	9,304	78	2,568	94	2,725	67	13,032	42	2,438	62	38,231	82	
Tug Contrecoeur.....	4,417	70	5,314	14	1,988	23	1,278	42	2,530	10	1,064	27	16,592	86	
Dredge No. 11.....	9,033	39	8,714	16	2,318	01	2,851	60	11,821	91	2,380	89	37,119	96	
Tug Portneuf.....	2,799	94	4,363	02	1,645	87	1,335	97	2,789	44	886	46	13,820	70	
Dredge No. 12.....	10,412	55	9,761	35	3,325	68	4,111	37	12,298	48	2,735	24	42,644	67	
Tug Laviolette.....	4,292	77	4,819	51	1,829	15	1,393	46	1,482	02	946	96	14,763	87	
Dredge No. 13.....	5,998	05	4,682	64	1,463	57	1,182	99	6,786	15	1,378	50	21,491	90	
Tug Lavaltrie.....	3,955	27	3,829	96	1,437	01	1,905	92	1,693	41	882	86	13,764	43	
Fleet Generally.															
Str. De Lewis.....	3,741	75	6,071	72	2,380	58	1,842	01	6,868	08	1,432	69	22,336	83	
Tug Jessie Hunt.....	2,490-75		2,297	36	674	03	852	13	6,284	63	863	48	13,462	38	
Floating machine shop.....			1,002	23	460	78	380	42	638	89	170	13	2,652	45	
Stone Lifter No. 3.....	130	50	1,550	11	430	17	144	15	2,643	19	335	70	5,233	82	
" 4.....	387	00	2,415	85	603	16	842	18	2,205	12	442	29	6,895	69	
Rock Cutter " 1.....	2,880	50	4,526	71	1,516	79	1,890	16	2,177	15	886	95	13,828	26	
	202,740	08	210,588	56	69,438	80	64,899	82	290,147	58	57,429	75	895,235	59	

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Improvements to Shipyards.

Boiler shop, new tools and machinery.....	3,213 19
Machine shop.....	75 21
New shear legs, completion.....	10,970 83
Building No. 20, extension.....	6,710 45
" 22, platform for castings.....	859 74
" 28, oil shed.....	4,667 96
Waterworks.....	445 83
Wharf No. 4, extension.....	7,160 14
Gasoline launch for the yard.....	4,473 81
Steam box.....	4,119 89
One compressor and cost of installation.....	6,862 64
Angle shear and bending machine.....	5,270 66
Shipyards, general.....	265 60
	50,585 94

Construction for Dredging Fleet.

Construction No. 36, completion.....	3,101 37
" 39, ".....	1,032 00
" 43, ".....	1,512 20
" 59, ".....	20 83
Water levels investigation re river St. Lawrence ship channel.....	
Stores and material.....	
Total expenditure on account of river St. Lawrence ship channel.....	5,666 40
	16,956 44
	5,465 26
	973,919 64

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The Richelieu & Ontario Nav. Co.	41 15	" <i>Simcoe</i>	26 38
Petty sales	4 15	" <i>Percheron</i>	5,904 23
		Department of Public Works (Repairs and supplies to dredges, tugs, etc.)	3,081 42
		Steamer <i>Maisonnette</i>	219 92
		Prescott agency	873 96
		Naval Service Department	4 95
		Quebec agency	621 73
		Signal service	326 92
		Lightship No. 17	75 02
		The Richelieu & Ontario Nav. Co.	41 15
			1,466,591 40

LOUIS LACOUTURE,
Accountant.
 SOREL SHIPYARD, March 31, 1914

W. S. JACKSON,
Superintendent of Shipyards.

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APPENDIX No. 5.

STATEMENT OF APPROPRIATION AND EXPENDITURE of Marine and Fisheries Department
for fiscal year ended March 31, 1914.

Service.	Appropriation.	Expenditure.	Balance.
	\$ cts.	\$ cts.	\$ cts.
Ocean and river service—			
Dominion steamers and icebreakers.....	1,000,166 86	999,186 57	980 29
Examination of masters and mates.....	16,500 00	13,762 66	2,737 34
Rewards for saving life, etc.....	140,000 00	139,885 36	114 64
Investigations into wrecks.....	18,400 00	8,754 71	9,645 29
Expenses of schools of navigation.....	8,000 00	2,477 82	5,522 18
Registration of shipping.....	2,700 00	2,481 17	218 83
Removal of obstructions in navigable waters.....	20,000 00	1,399 46	18,600 54
Winter mail service.....	11,000 00	7,516 78	3,483 22
Inspection of live stock shipments.....	5,000 00	2,438 64	2,561 36
Subsidy to wrecking plants.....	45,000 00	34,281 53	10,718 47
Unforeseen expenses.....	5,000 00	4,093 36	906 64
	1,271,766 86	1,216,278 06	55,488 80
Public Works chargeable to capital—			
River St. Lawrence ship channel.....	894,000 00	1,004,145 22	} 511,241 31
Dredging plant for river St. Lawrence.....	1,317,000 00	695,613 47	
New icebreaking steamer for river St. Lawrence.....	250,000 00	240 00	
	2,461,000 00	1,699,998 69	761,001 31
Lighthouse and coast service—			
Salaries and allowances to lightkeepers.....	450,000 00	420,616 13	29,383 87
Agencies, rents and contingencies.....	140,000 00	136,527 94	3,472 06
Maintenance and repairs to lighthouses.....	700,000 00	699,785 90	214 10
Construction of lighthouses and aids to navigation.....	1,000,000 00	851,964 87	148,035 13
Icebreaking in Thunder bay, etc.....	30,000 00	29,856 33	143 67
Signal service.....	21,000 00	19,176 11	1,823 89
Administration of pilotage, etc.....	41,000 00	40,918 28	81 72
Pensions to retired pilots.....	6,300 00	5,604 03	695 97
Maintenance and repairs to wharves.....	16,000 00	9,165 88	834 12
Telephones reporting stations, etc.....	30,000 00	27,220 42	2,779 58
Telephones in connection aids to navigation.....	5,000 00	4,596 11	403 89
Lighthouse buoy steamer for the St. Lawrence.....	50,000 00	45,269 76	4,730 24
Repairs to Maritime road.....	1,000 00	1,000 00	
Lighthouse and buoy steamer to replace <i>Scott</i>	110,000 00	27,901 54	82,098 46
Allowance to widow and children of the late Albert Gates.....	4,500 00	4,500 00	
Pilotage plant at Victoria and Esquimalt.....	9,000 00		9,000 00
	2,607,800 00	2,324,103 30	283,696 70
Scientific institutions—			
Meteorological service.....	200,400 00	199,134 11	1,265 89
Magnetic observatory.....	1,000 00	892 29	107 71
	201,400 00	200,026 40	1,373 60
Marine hospitals—			
Care of sick seamen and repairs to hospitals.....	65,000 00	54,578 55	10,421 45
Shipwrecked and distressed seamen.....	3,000 00	1,331 09	1,668 91
	68,000 00	55,909 64	12,090 36
Steamboat inspection—			
Steamboat inspection.....	70,000 00	63,714 12	6,285 88

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STATEMENT of Expenditure of the Department for the fiscal year 1913-14—*Concluded.*

Service.	Appropriation.		Expenditure.		Balance.	
	\$	cts.	\$	cts.	\$	cts.
Fisheries—						
Salaries and disbursements of fishery officers.	230,000	00	229,547	16	452	84
Building fishways and cleaning rivers.	20,000	00	12,341	93	7,658	07
Legal and incidental expenses.	4,000	00	1,100	87	2,899	13
Canadian Fisheries Museum.	16,000	00	9,100	54	6,399	46
Oyster culture.	6,000	00	4,434	60	1,565	40
Cold storage and transportation of fresh fish.	100,000	00	90,868	51	9,131	49
Dogfish reduction works.	60,000	00	41,188	37	18,811	63
Services of Customs officers re Modus Vivendi licenses	900	00	537	90	362	10
Fisheries Intelligence Bureau.	10,000	00	8,956	76	1,043	24
International Fishery Commission.	5,000	00	441	59	4,558	41
Fisheries Patrol Service.	137,500	00	135,330	87	2,169	13
10 Fishery patrol boats for Atlantic coast.	50,000	00	15,994	08	34,005	92
Exhibit of fresh fish (Toronto exhibition)	10,000	00	9,700	48	299	52
Fisheries patrol steamer for lake Winnipeg.	145,000	00	40,146	03	104,853	97
Fish breeding establishments.	400,000	00	354,675	13	45,324	87
Marine biological stations and investigations	17,000	00	17,000	00		
Fishery patrol boats for British Columbia.	75,000	00	66,542	10	8,457	90
Expenses of investigating claims for compensation under the Pelagic Sealing Treaty	17,000	00	16,713	02	286	98
Allowance to Department of Public Works for the loss of the icebreaking tug "Sir Hector"	16,238	00	16,238	00		
	1,319,638	00	1,070,857	94	248,780	06
Civil government salaries.	253,200	00	231,237	36	21,962	64
Contingencies.	37,000	00	36,759	80	240	20
Recapitulation—						
Ocean and river service.	1,271,766	86	1,216,278	06	55,488	80
Public works chargeable to capital.	2,461,000	00	1,699,998	69	761,001	31
Lighthouse and coast service.	2,607,800	00	2,324,103	30	283,696	70
Scientific institutions	201,400	00	200,026	40	1,373	60
Marine hospitals.	68,000	00	55,909	64	12,090	36
Steamship inspection.	70,000	00	63,714	12	6,285	88
Fisheries.	1,319,638	00	1,070,857	94	248,780	06
Civil government salaries.	253,200	00	231,237	36	21,962	64
Contingencies.	37,000	00	36,759	80	240	20
	8,289,874	86	6,898,885	31	1,390,989	55
Fishing bounty.	160,000	00	158,661	25	1,338	75

STATEMENT OF REVENUE of Marine and Fisheries Department for fiscal year ended
March 31, 1914.

Service.	Amount.	Refunds.	Total.
	\$ cts.	\$ cts.	\$ cts.
Piers and wharfs	31,619 53	574 86	31,044 67
Harbours	762 00	5 60	757 00
DOMINION STEAMERS.			
<i>Champlain.</i>			
Freight, \$1,665.97; passengers, \$4,921.92; meals, \$50.30; miscellaneous, \$235.13	6,873 32		
<i>Earl Grey.</i>			
Freight, \$269.38; passengers, \$3,943.50; meals, \$222.60; berths, \$1,136; express, \$685.72	14,257 20		
<i>Minto.</i>			
Freight, \$3,598.55; passengers, \$2,676.25; meals, \$170.90; berths, \$527; express, \$549.78	7,522 48		28,653 00
Decayed pilots' fund.	5,697 41		5,697 41
Steamboat Inspection fund.	3,556 15		3,556 05
Steamboat engineers' fees.	1,865 00		1,865 10
Sick mariners' fund.	70,649 49	108 97	70,540 52
Signal station dues	751 00		751 00
Marine register fees	52 85		52 85
Fines and forfeitures (Marine)	331 62	10 90	320 72
Examination masters and mates.	5,558 75	10 00	5,548 75
Casual revenue (Marine)	74,649 58	6,461 52	68,188 06
Casual revenue (Fisheries)	29,435 87	497 71	28,938 16
Winter mail service.	57 88		57 88
Fisheries revenue	99,959 21	269 30	99,689 91
Modus vivendi	11,728 50		11,728 50
	365,327 84	7,938 26	357,389 58
Transfer of fishery licenses issued by D. Morrison in 1914 and to come to account in 1914-15.			423 78
			356,965 80

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LIST OF WHARFINGERS.

DETAILED STATEMENT.

Ontario.

Locality.	Wharfinger.	Date of Appointment.	Remuneration allowed.	Amount.
		Year.	p. c.	\$ cts.
Barrys Bay	S. E. Smith	Aug. 25, 1905..	25	
Baysville	Jas. D. Smith	Sept. 25, 1906..	25	
Blind River	W. H. McGauley	April 14, 1908..	50	424 86
Bracebridge	W. C. Simmons	Sept. 24, 1908..	25	
Brighton	W. S. Strong	Mar. 7, 1913..	25	213 02
Bronte	T. Joyce	Dec. 17, 1912..	25	23 25
Bruce Mines	W. Fleming	April 15, 1902..	50	99 87
Burk's Falls	A. J. Collins	Feb. 8, 1897..	25	
Chute à Blondeau	O. Cousineau	May 28, 1909..	40	85 43
Cockburn Island	D. J. McLeod	June 29, 1910..	50	18 23
Cooks Bay (see Silverwater).				
Depot Harbour	W. H. Hoppins	May 8, 1905..	25	
Echo Bay	T. H. McWaters	June 5, 1912..	25	
Goderich	Malcolm McDonald	Mar. 7, 1913..	25	131 25
Haileybury	E. Wright	July 26, 1913..	25	453 78
Hilton	Peter Brown	Mar. 25, 1912..	50	189 44
Honora	G. E. Hawke	May 12, 1909..	25	
Huntsville	Under lease			105 00
Kingsville	W. H. Black	Aug. 1, 1902..	25	289 47
Lakeport	Roy Mathews	July 4, 1912..	25	
L'Orignal	Louis Tourangeau	May 22, 1912..	25	54 84
Leamington	J. E. Johnson	May 11, 1906..	25	323 28
Lions Head	Chas. Knapp	Feb. 6, 1906..	25	
Maganatawan	Conrad Ross	April 6, 1910..	25	
Midland	J. Yates	Oct. 26, 1905..	25	433 15
Michipicoten Harbour	George Reed	Nov. 27, 1913..	25	
Morpeth				
North Bay	Michael LeBeuf	Mar. 21, 1910..	50	55 02
Oshawa	W. T. Henry	Aug. 10, 1904..	\$400	
Owen Sound	Under lease			
Pelee Island	H. Henderson	Feb. 2, 1907..	25	441 80
Pembroke	Thos. Lowe	Mar. 7, 1913..	\$200	114 80
Peterboro, Wolfe St.				
Port Finlay	J. H. Teare	June 29, 1908..	50	
Port Rowan	Jos. Ellis	June 8, 1910..	25	
Port Whitby	John Watson	Sept. 30, 1912..	25	119 55
Providence Bay				
Richards Landing	Jas. Buruside	Mar. 16, 1913..	50	129 09
Rondeau	Jas. Claus	Nov. 27, 1913..	25	26 00
Rosspoint				
Rosseau	S. A. Foote	April 17, 1912..	50	134 34
Sault Ste. Marie	G. A. Boyd	April 9, 1897..	\$100 per month 200 " year for assistant ..	111 97
Scudder wharf—Pelee Island	Irwin Quick	May 5, 1911..	25	161 64
Sheguiandah	Wm. Stevens	Nov. 8, 1910..	25	37 90
Silver Centre	H. Pickering	July 17, 1911..		25 00
Silver Water	Chas. Kent	May 28, 1909..	50	
Southampton	H. Harmer	May 24, 1912..	25	165 25
South Lancaster	John Munroe	Sept. 19, 1912..	25	
Summerstown	A. Bonnerville	May 25, 1910..	25	
Tendy Bay	Philip Jacob	May 22, 1912..	22	
Thessalon	W. H. Hill	Feb. 29, 1912..	50	81 47
Tolmaville (see Cockburn Isl'd)				
Treadwell	H. Deschesne	April 24, 1914..	50	58 72
Wendover	M. St. Pierre	Feb. 20, 1913..	50	65 18
Warton	E. Shackleton	— 12, 1913..	25	61 50
				4,634 11

5 GEORGE V., A. 1915

LIST OF WHARFINGERS—*Continued.*DETAILED STATEMENT—*Continued.*

Quebec-Montreal District.

Locality.	Wharfinger.	Date of Appointment.	Remuneration Allowed.	Amount.
		Year.	p. c.	\$ cts.
Agnès.....	L. A. Roy.....	Nov. 27, 1891..	25	
Boucherville.....	Nap. Sicotte.....	April 17, 1913..	25	
Cap de la Madeleine.....				1 65
Cascades.....				
Cedars.....	C. Laboursadière.....	May 27, 1907..	50	
Côteau du Lac.....	A. St. Amour.....	July 4, 1912..	50	4 20
Coteau Landing.....	Nap. Beriault.....	June 29, 1910..	50	20 95
Desjardins.....	P. Desjardins.....	Mar. 31, 1906..	25	
East Templeton.....	Léon Campeau.....	May 13, 1912..	50	32 09
Fassett, Labelle Co.....	F. Thomas.....	April 28, 1914..	50	57 36
Graham.....	Antoine Bertrand.....	Feb. 22, 1911..	50	42 19
Greece Point.....	T. Ranger.....	July 16, 1902..	25	
Hudson.....	Cyprien Bertrand.....	June 25, 1912..	50	61 42
Ile Perrot, North.....	O. Legault.....	May 30, 1910..	25	74 75
" South.....	R. Daoust, (acting).....	Aug. 8, 1908..	50	
Knowltons Landing.....	L. Knowlton.....	Mar. 23, 1910..	25	37 50
Lacolle.....	R. J. Robinson.....	Mar. 8, 1894..	25	
Lake Megantic (see Megantic Village).				
Longueuil (under Montreal Harbour Commissioners).				
Magog.....	D. Peters.....	June 10, 1906..	50	71 29
Masson.....	O. Daoust.....	May 2, 1913..	\$100	
Megantic Village.....				
Monte Bello.....	A. Gauthier.....	April 17, 1914..	50	30 00
Papineauville.....	A. Chabot.....	April 10, 1912..	50	124 66
Peel Head Bay.....	A. N. Roy.....	Jan. 8, 1907..	25	6 45
Pointe Fortune.....	Wm. Brown.....	April 26, 1910..	25	133 10
Pointe aux Trembles.....				
Pointe à Valois (see Valois Point).				
Port Lewis.....	Sam Carson.....	Dec. 17, 1912..	25	
Rigaud.....	O. Mallette.....	Oct. 14, 1907..	50% except that from tolls and dues from use of scales.....	60 69
Rigaud.....	J. Vallée, assistant wharfinger.....	May 5, 1908..	50% of tolls and dues collected from use of scale.	
Sabrevois.....	Vacant.....			
St. Agnes, see Agnes.				
St. Anicet.....	Moise Côté.....	Aug. 30, 1913..	50	
Ste Anne de Bellevue.....	M. C. Bezner.....	Sept. 21, 1908..	50	182 77
St. Denis.....				12 33
St. Marc, Verchères.....	Vacant.....			
St. Zotique.....	A. Bissonnette.....	Sept. 7, 1906..	25	9 20
Varennes.....				
Valois Point.....	L. Castonguay.....	Aug. 20, 1897..	25	27 82
Vaudreuil.....	O. Boileau.....	Sept. 14, 1914..	50	77 28
Verchères.....	A. St. Pierre.....	Sept. 6, 1912..	25	Nil.
Ville Marie.....	J. J. Maillard.....	Aug. 2, 1899..	25	
				1,067 70

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LIST OF WHARFINGERS—*Continued.*DETAILED STATEMENT—*Continued.*

Quebec District.

Locality.	Wharfinger.	Date of Appointment.	Remuneration Allowed.	Amount.
		Year.	p. c.	\$ cts.
Amherst (Magdalen Island)....	J. Chas. Boudreau.	Sept. 1, 1913..	25	271 86
Anse aux Gascons.....	S. A. Huard.....	Sept. 5, 1913..	25	31 44
Anse à l'Islet.....	Jos. Duguay.....	Sept. 17, 1912..	25	151 83
Anse St. Jean.....	F. Lavoie.....	Aug. 13, 1895..	\$19.00	73 17
Baie St. Paul.....	P. Cimon.....	Sept. 27, 1912..	32.00	102 11
Beauport.....	F. Guillot.....	Sept. 25, 1912..	50	73 46
Berthier.....	J. Blais.....	Sept. 7, 1905..	50	70 90
Bic.....	L. Roy.....	Sept. 16, 1912..	25	
Carleton.....	E. Alain.....	Sept. 6, 1913..	\$50.00	32 95
Cap à l'Aigle.....	F. Charrette.....	Sept. 27, 1912..	18.00	62 97
Château Richer.....	Nérée Paré.....	Sept. 13, 1912..	25	82 12
Chicoutimi.....	T. Tremblay.....	Sept. 23, 1901..	\$122.00	1,235 47
Esquimaux Point.				
Grand Entry.....	T. Rankin.....	June 26, 1912..	25	88 47
Grand Pabos (see Anse à l'Islet).				
Grand River.....	Geo. Belliveau.....	April 27, 1912..	25	136 69
Grindstone (Magdalen Island).. <td>André Gaudet.....</td> <td>April 18, 1914..</td> <td>25</td> <td>430 23</td>	André Gaudet.....	April 18, 1914..	25	430 23
Ile aux Grues.....	D. Vézina.....	June 13, 1904..	25	
Les Eboulements.....	H. Tremblay.....	Mar. 7, 1914..	\$29.00	95 82
L'Islet.				
Matane.....	Alex. J. Pelletier.....	Jan. 20, 1912..	50	137 28
Mechins.....	G. E. Verreault.....	Feb. 14, 1913..	50	47 71
Miguasha.....				
Montmagny Basin.....	R. Fournier.....	May 23, 1913..	25	
Murray Bay.....	Wm. Tremblay.....	Mar. 14, 1913..	None.	653 63
New Carlisle.....	John C. Hall.....	April 25, 1912..	25	77 34
Paspébiac.....	J. DeCaen.....	Feb. 22, 1908..	50	39 11
Percé.....	J. M. LeBoutillier.....	April 17, 1912..	40	191 42
Pointe à Côté (see Bic)				
Point aux Esquimaux.....				
Pointe aux Origneaux (see Ri- vière Ouelle).				
Port Daniel.....	F. X. Gagnon.....	Feb. 26, 1907..	\$50.00	20 05
Roberval.....	Simon Martel.....	June 9, 1914..	50	287 61
Rimouski.....	U. Lavoie.....	Mar. 27, 1907..	50	79 84
Rivière Blanche.....	Alphonse Quimper.....	Jan. 20, 1912..	50	86 90
Rivière du Loup.....	L. J. Puize.....	Nov. 7, 1905..	\$146.00	648 82
Rivière Ouelle.....	J. A. Gamache (acting).. <td>June 23, 1913..</td> <td>25</td> <td>55 95</td>	June 23, 1913..	25	55 95
St. Alphonse de Bagotville.....	Thos. Fortier.....	April 20, 1909..	\$48.00	215 24
Ste. Cécile du Bic.....	O. LeBel.....	Jan. 20, 1912..	25	33 00
St. Irénée.....	G. Bouchard.....	Feb. 10, 1903..	25	124 88
St. Jean d'Orléans.....	Vacant.....		50	60 00
St. Jean Port Joli.....	Lucien Legros.....	Jan. 16, 1913..	25	
St. Laurent d'Orléans.....	J. Godbout.....	May 11, 1904..	50	30 00
St. Nicholas.....	Under lease.....			50 00
St. Siméon.....	E. Tremblay.....	Mar. 7, 1913..	25	29 56
St. Thomas de Montmagny.....	R. Fournier.....	May 23, 1913..	25	72 69
Shea Point (see Amherst, Mag- dalen Islands).				
Tadoussac.....	A. Gingras.....	May 29, 1906..	\$30.00	64 48
Trois Pistoles.....				
				6,045 00

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LIST OF WHARFINGERS—*Continued.*DETAILED STATEMENT—*Continued.**New Brunswick.*

Locality.	Wharfinger.	Date of Appointment.	Remuneration allowed.	Amount.
		Year.	p.c.	\$ cts.
Andersons Hollow.....	I. H. Copp.....	Jan. 25, 1913..	25	120 60
Black River.....	A. L. Moore.....	Jan. 23, 1914..	25	
Bathurst.....	J. C. Meahan.....	June 15, 1912	25	67 77
Buctouche.....	J. J. LeBlanc.....	May 2, 1912..	25	
Burnt Church.....	Jas. Anderson.....	Feb. 26, 1904..	25	
Campbellton.....	W. W. Doherty.....	Oct. 19, 1912..	25	1,524 06
Cape Tormentine.....	J. D. Lane.....	May 24, 1912..	25	424 25
Caraguet.....	H. Foulen.....	June 26, 1912..	25	67 02
Clifton.....				
Clifton, now Stonehaven.				
Cocagne.....	J. F. Bourque.....	Mar. 13, 1907..	25	
Coles Point.....	J. B. Tower.....	June 21, 1909..	25	
Dalhousie.....	W. J. Smith.....	June 27, 1891..	25	22 50
Edgett Landing.....	Moses Stevens.....	Mar. 27, 1912..	25	
Gardners Creek.....	J. J. Armstrong.....	Dec. 22, 1909..	25	
Hopewell Cape.....	L. Layton.....	Mar. 25, 1912..	25	55 38
Hopewell Hill.....	F. J. Robinson.....	July 17, 1909..	25	
Kingston see Rexton.				
Lameque.....	N. Chiasson.....	Nov. 28, 1906..	25	
Lorneville.....	Vacant.....			
Little Aldouane.....	J. Comeau.....	Mar. 21, 1911..	25	
Main River.....	A. S. Murray.....	Mar. 1, 1906..	25	
Miscou Harbour.....	Prudent Roy.....	Nov. 9, 1910..	25	
Moncton.....	Jas. Flanagan.....	June 16, 1911..	25	97 22
Neguac.....	C. McIntosh.....	Apr. 18, 1910..	25	
New Horton, see Two Rivers.				
Oromocto.....	Jno. E. Stocker.....	June 30, 1905..	25	
Partridge Island, East wharf.				
Petit Rocher.....	J. Boudreau.....	Aug. 27, 1910..	25	1 01
Quaco, see St. Martin.				
Rexton.....	T. Harnett.....	Aug. 3, 1911..	25	
Sand Point.....	E. C. Elkin.....	Nov. 6, 1910..	25 not to exceed \$1,500 in one year.....	8,933 43
Spencer Island.....	H. E. Grant.....	June 24, 1911..	25	
St. John, see Sand Point.				
St. John West, see Sand Point.				
Shippigan.....	G. J. Henry.....	Apr. 6, 1910..	50	71 99
St. Louis Gully.....				
St. Martin.....	A. Vaughan.....	Nov. 5, 1912..	25	10 26
St. Mary.....	H. M. Leger.....	Dec. 19, 1905..	25	
St. Nicholas River.....	J. Grant.....	Sept. 27, 1901..	25	
Stonehaven.....	S. Payne.....	Nov. 9, 1914..	25	
Tracadie.....	L. Breau.....	Oct. 12, 1910..	25	6 46
Two Rivers.....	J. Knowlton.....	May 27, 1913..	25	4 80
Waterside, see Anderson's hollow				
				11,406 75

Nova Scotia.

Advocate.....	Vacant.....			
Annapolis Royal.....	R. P. Saunders.....	Oct. 8, 1913..	25	25 87
Arisaig.....	H. R. McAdam.....	Dec. 30, 1898..	25	
Arichat.....	D. H. Cutler.....	Mar. 21, 1912..	25	43 14
Avonport.....	L. F. Fuller.....	Aug. 13, 1902..	25	
Babins Cove.....	S. Vigneau.....	Jan. 20, 1914..	25	1 90
Baddeck.....	A. S. McDonald.....	Nov. 25, 1912..	25	257 19

SESSIONAL PAPER No. 21

LIST OF WHARFINGERS—*Continued.*DETAILED STATEMENT—*Continued.*Nova Scotia—*Continued.*

Locality.	Wharfinger.	Date of Appointment.	Remuneration Allowed.	Amount.
		Year.	p.c.	\$ cts.
Bakers Point.....	Vacant.			
Barrington Passage.....	J. H. Christie	Aug. 31, 1896..	25	58 79
Barrington Head.....	Capt. W. Doane	June 29, 1910..	25	4 87
Bass River	J. C. Fulton	Jan. 6, 1898..	25	
Bayfield.....	Geo. Prowse	" 20, 1914..	25	
Battery Point.....	Albert Ellis	Apr. 3, 1912..	50	15 17
Bear Point.....	C. O. Venot	Oct. 29, 1912..	25	
Bear River.....	A. W. Dunn	Sept. 12, 1913..	25	0 37
Belliveau Cove.....	S. C. Therriault.....	Nov. 24, 1892..	25	
Black Point.....	Elisha W. Perry.....	Apr. 30, 1913..	25	92 00
Boularderie.....			25	13 53
Broad Cove				
Broad Cove Marsh	H. McDonald.....	Oct. 19, 1892..	25	
Brooklyn	G. McLeod.....	Mar. 30, 1914..	25	25 09
Brule Point.....	A. Craig.....	Dec. 26, 1898..	25	
Burlington				
Canada Creek	H. Dickey.....	Aug. 12, 1899..	25	5 49
Canning.....	F. A. McBride.....	Nov. 16, 1912..	25	
Chebogue (see Town Point).				
Canso.....	Jas. Meagher.....	Dec. 13, 1905..	25	
Cape Cove.....	Benj. Doucette.....	Feb. 8, 1907..	25	29 18
Castle Bay	R. H. McNeil	Mar. 14, 1914..	25	
Centreville	A. Ward.....	May 28, 1899..	25	82 58
Chipmans Brook.....	H. Thorpe	Apr. 11, 1907..	25	
Church Point.....	D. Thibodeau.....	June 2, 1913..	25	13 91
Clifton.....				
Clarks Harbour (Swims Point).....	Job A. Crowell.....	Mar. 21, 1913..	25	42 95
Cranberry Head.....	A. Shaw.....	May 26, 1903..	25	
Cribbins Point.....	Angus R. Boyd.....	Oct. 2, 1895..	25	
Deep Brook.....	J. C. W. Dittmare.....	Dec. 2, 1911..	25	8 64
Delap Cove	R. W. McCaul.....	Nov. 28, 1889..	25	
D'Ecoussé (New)	A. Langlois	Aug. 26, 1912..	25	50 14
Digby	J. O. Dakin.....	Feb. 5, 1912..	25	2,980 78
Drumhead.....	Vacant.			
Eagle Head.....	N. Leslie.....	Jan. 9, 1889..	25	
East Bay.....	A. McGillivray.....	May 3, 1903..	50	
East Jeddore (see Bakers Point).				
East River	Vacant.			
Ecum Secum	"			
Englishtown.....				
Freeport	J. L. Stevens.....	May 8, 1912..	25	74 31
Gabarus.....	Vacant.			
Grand Narrows.....				
Grandville Centre.....	H. Roney.....	July 6, 1903..	25	55 06
Great Village.....	Vacant.			
Halifax (In dockyards).				
Hall Harbour.....	J. C. Watson.....	Nov. 16, 1912..	50	42 98
Hampton	C. E. Dunn.....	Dec. 22, 1906..	25	19 53
Hantsport.....				
Harbourville	Wm. Spicer.....	May 21, 1913..	25	50 31
Horton Landing.....	F. G. Curry.....	Apr. 30, 1898..	25	55 02
Indian Bay (see Jordan Bay).				
Indian Harbour.....				
Iona	F. S. X. McNeill.....	June 8, 1901..	25	
Irish Cove.....				
Isaacs Harbour.....	T. D. Cooke.....	Jan. 30, 1902..	25	10 02
Jordan Bay.....	W. McKay.....	July 1, 1913..	25	11 96
Jordan River.....	Vacant.			
Kelley Cove.....	J. A. Kelly.....	Apr. 6, 1908..	25	
Kingsport (see Oak Point).				
Little Narrows.....	Vacant.			
Lismore.....	"			

5 GEORGE V., A. 1915

LIST OF WHARFINGERS—*Continued.*DETAILED STATEMENT—*Continued.**Nova Scotia—Continued.*

Locality.	Wharfinger.	Date of Appointment.	Remuneration Allowed.	Amount.
<i>Nova Scotia—Con.</i>		Year.	p.c.	\$ cts.
Little River.....	O. E. Denton.....	Feb. 5, 1912..	25	37 58
Maitland.....				
Margaretsville.....	Wm. Early.....	Jan. 15, 1912..	25	68 74
Meteghan Cove.....	M. R. Robichaud.....	Feb. 7, 1909..	25	12 77
Meteghan River.....	A. Melanson.....	Sept. 26, 1910..	25	
Middle Country Harbour.....				
Militia Point.....	D. McIntosh.....	Aug. 20, 1892..	25	
Mill Creek.....	Jas. E. Porter.....	Jan. 31, 1914..	25	
Monday Point.....				
Morden.....	Wm. Findlay.....	Jan. 14, 1914..	25	16 62
New Edinburgh.....	Chas. T. D'Eon.....	Apr. 3, 1912..	25	
Newellton.....	A. C. Newell.....	" 23, 1906..	25	50 20
Noel.....	M. Faulkner.....	Nov. 7, 1905..	25	
North Wallace.....				
North Side (see Boularderie).				
Oak Point.....	Leased.....			33 34
Ogilvie.....	J. L. Swindle.....	Mar. 4, 1907..	25	
Owls Head Harbour.....	David Palmer, jr.....	Apr. 13, 1910..	25	
Parkers Cove.....	Daniel Robinson.....	Dec. 13, 1913..	25	
Parrsboro'.....	Wm. Lavers.....	June 8, 1911..	50	
Phinney Cove.....	A. Bent.....	Dec. 24, 1907..	25	1 50
Picketts.....	F. A. Eaton.....	Aug. 2, 1899..	25	73 49
Pictou Island.....				
Plymouth.....	J. B. Purdy.....	Feb. 22, 1902..	25	
Plympton.....	W. K. Smith.....	Aug. 8, 1890..	25	7 69
Port Dufferin.....	E. H. Balcom.....	May 5, 1910..	25	
Port George.....				34 93
Port Greville.....	Vacant.....			
Port Hastings.....	Gordon Martin.....	April 17, 1914..	25	44 47
Port Hawkesbury.....	F. McInnis.....	Mar. 20, 1907..	25	395 33
Port Hood.....	I. P. Smith.....	Dec. 20, 1912..	25	
Port Joli.....	J. S. McAdam.....	Feb. 5, 1900..	25	
Port la Tour.....	E. R. Reynolds (Temporary).....	May 23, 1914..	25	15 05
Port Lorne.....	F. Beardsley.....	June 9, 1897..	25	26 59
Port Maitland.....	J. W. Raymond.....	Feb. 20, 1914..	25	
Port Morien.....	Wm. A. Brunn.....	Oct. 2, 1912..	25	66 23
Port Mouton.....	I. Leslie.....	Oct. 17, 1912..	25	2 27
Port Philip.....	Chandler Smith.....	Jan. 17, 1913..	25	3 19
Port Wade.....	E. H. Johns.....	April 3, 1912..	25	38 09
Poulamon.....	Chas. N. Pertus.....	Nov. 18, 1911..	25	44 61
Rays Creek.....	A. E. Goodwin.....	April 3, 1912..	25	5 02
Riverside.....	Vacant.....			
Salmon River.....	J. E. LeBlanc.....	Nov. 25, 1913..	25	
" (see Port Dufferin).				
Sandford (see Cranberry Head).				
Saulnierville.....	J. L. Saulnier.....	Aug. 25, 1888..	25	
Scotch Cove.....	Geo. Fitzgerald.....	Dec. 13, 1912..	50	15 56
Shag Harbour.....	Jas. W. Smith.....	Dec. 13, 1912..	25	1 20
Sheet Harbour (see East River and West River).				
Short Beach.....	A. E. Wyman.....	Feb. 11, 1909..	25	
Spencers Island.....	H. E. Grant.....	June 24, 1911..	25	14 10
Swims Pt.....	J. A. Crowell.....	Mar. 21, 1913..	25	
Tancook Island.....	W. D. Pearl.....	Mar. 9, 1912..	25	
Tenny Cape.....				
Tidnish.....	R. A. Smith.....	Sept. 27, 1901..	25	59 52
Tiverton.....	B. Blackford.....	Oct. 17, 1906..	25	
Trion Pt.....	J. A. Haley.....	Aug. 16, 1901..	25	
Tracadie.....	Breakwater only.			

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LIST OF WHARFINGERS—*Continued.*DETAILED STATEMENT—*Continued.**Nova Scotia—Concluded.*

Locality.	Wharfinger.	Date of Appointment.	Remuneration Allowed.	Amount.
<i>Prince Edward Island.</i>		Year.	p. c.	\$ cts.
Tusket Wedge.				
Victoria	D. Ogilvie.	Aug. 13, 1911..	25	
Wallace, S. side.	Vacant.			
Walton.				
Washabuck Centre	John McNeil.	April 20, 1910..	25	
West Arichat.	Vacant.		25	12 04
West Head	H. N. Newell.	Feb. 7, 1910..	25	51 30
Westport.	W. E. Kent.	Sept. 16, 1912..	25	61 67
West Pubnico.	A. D'Eon.	Feb. 20, 1914..	25	
West River.	Vacant.			
White Head	E. L. Munroe.	Oct. 23, 1906..	25	
White Point	See Scotch Cove.			
White Pt.	E. West.	Jan. 9, 1889..	25	
Whitewaters	H. S. Winter.	April 22, 1913..	25	5 10
Whycocomagh	D. Livingstone.	Dec. 22, 1906..	25	
Wolfeville	J. L. Franklin.	Oct. 22, 1901..	25	28 29
Wreck Cove.				
				5,297 27

Prince Edward Island.

Aitkens Ferry	J. M. Howitt	April 3, 1912..	25	
Aitkens Shore Pier.	See Lower Montague.			
Annandale	Isaac Howlett	Aug. 26, 1912..	25	81 48
Bay View.	J. Harrington	Oct. 2, 1885..	25	9 65
Belfast	J. F. Halliday	May 1, 1901..	25	57 44
Brush Wharf.	Levi R. Ings.	June 9, 1914..	25	32 32
Campbell's Cove.				
Chapel Point	R. H. McCormack.	July 19, 1912..	25	6 45
Charlottetown	Agency.			1,317 86
China Point	W. S. N. Crane.	Sept. 18, 1885..	25	7 31
Clifton	J. Gunn	May 4, 1900..	25	-
Cranberry.				
Crapaud	Jas. Day	Sept. 30, 1912..	25	213 60
Egmont Bay	N. Gallant.	Nov. 9, 1891..	25	
Gaspereau.	See St. Mary's Bay.			
Georgetown	R. R. Jenkins	Oct. 14, 1892..	25	35 52
Grand River South	Wm. A. Grossman	Jan. 14, 1914..	25	
Grand River	See Annandale.			
Greek River.	Wm. Butler	April 24, 1911..	25	15 85
Haggerty's	John Callaghan	June 25, 1912..	25	28 08
Hickey's	Patrick McGuirk	April 2, 1914..	25	33 30
Higgins' Shore	H. Reeves	May 16, 1913..	25	
Hurd Point	Robt. M. Holland.	May 21, 1913..	25	52 95
Kier Shore	W. Hodgson.	June 10, 1895..	25	139 85
Lambert Pier	W. A. Johnston.	May 3, 1900..	25	68 33
Lewis Point	H. McCormack.	Nov. 6, 1908..	25	
Lower Montague	See Aitkins Ferry.			
Mink River.	See Murray Harbour Nth.			
Montague	See with Lambert's Pier.			
Mount Stewart.	B. Pigott.	Jan. 17, 1910..	25	62 58
McGee Pier Shore.	See Egmont Bay.			
McKee Pier	See Egmont Bay.			
McPherson Cove	Jos. Christian.	April 18, 1914..	25	11 25
Murray Harbour (North).	Benj. Richards	Jan. 19, 1909..	25	1 20
" (South).	G. Billard.	June 14, 1913..	25	22 88
Nine Mile Creek.	Chas. McDonald.	Mar. 14, 1914..	25	

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LIST OF WHARFINGERS—*Continued.*DETAILED STATEMENT—*Continued.**Prince Edward Island—Concluded.*

Locality.	Wharfinger.	Date of Appointment.	Remuneration Allowed.	Amount.
		Year.	p.c.	\$ cts.
North Cardigan	H. McDonald	May 23, 1914..	25	44 03
Oyster Bed Bridge	H. Gallant	May 22, 1912..	25	
Pinette	A. Young	Nov. 28, 1906..	25	
Port Selkirk, see Brush Wharf.				
Pownal	M. M. Hayley	Oct. 13, 1896..	25	24 98
Red Point	Alex. McAuley	May 24, 1912..	25	
St. Mary's Bay	G. H. Hicken	Nov. 11, 1910..	25	21 90
St. Stephen's Pier	See with Lambert Pier.			
Souris.				
South Rustico Pier	See Oyster Bed Bridge.			
South River.				
Stephens	See Lambert Pier.			
Sturgeon Pier	Wm. Griffin	Nov. 9, 1912..	25	14 06
Tignish	Jos. E. Richard	Sept. 16, 1912..	25	11 79
Vernon River	John Finlay	April 25, 1912..	25	95 72
Victoria Pier	See with Crapaud.			
West Point.				
Wood Island	J. Young	April 10, 1899..	25	13 74
				2,424 12

Manitoba.

Selkirk	J. A. Hunt	May 3, 1912..	25	636 04
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British Columbia.

Ladysmith	D. T. Conway	Feb. 6, 1906..	25	
Langley				
Sidney Harbour	C. C. Cochrane	Nov. 25, 1910..	25	49 14
Stewart				62 20
Massett, B.C.	Vacant.			
				111 34

Résumé Wharfage.

Ontario	\$ 4,634 11
Montreal District	1,065 40
Quebec District	6,044 50
New Brunswick	11,406 75
Nova Scotia	5,297 27
Prince Edward Island	2,424 12
Manitoba	636 04
British Columbia	111 34
	\$31,619 53

Harbour Dues.

Revenue from—	
Port Stanley	\$ 5 00
St. Johns	59 00
Sorel	245 50
Halifax	22 50
Louisburg	220 00
International Pier Sydney	50 50
Comox	102 50
Victoria	57 00
	\$762 00

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LIST OF HARBOUR MASTERS.

Ontario.

Port.	Harbour Master.	Date of Appointment.	Gross Collections.	Remuneration.	Net Collections.
				\$	\$ cts.
Amherstburg.....	Geo. Gott.....	May 13, 1912..	.....	200 00	
Bronte.....	Thos. Joyce.....	Dec. 17, 1912..	2 00	200 00	
Bying Inlet North.....	H. L. Grasswell.....	Feb. 20, 1912..	.....	200 00	
Collingwood.....	Robt. Hughes.....	Nov. 25, 1913..	24 50	300 00	
Depot Harbour.....	A. F. Butterworth.....	April 14, 1913..	20 00	200 00	
Fort William.....	Jas. McAllister.....	Feb. 22, 1913..	265 00	600 00	
French River.....	C. Dean Dudy.....	Mar. 25, 1912..	2 00	200 00	
Goderich.....	M. McDonald.....	April 17, 1912..	25 00	300 00	
Little Current.....	W. D. Ritchie.....	" 3, 1912..	188 50	200 00	
Meaford.....	Wm. Cooke.....	July 1, 1913..	.....	200 00	
Midland.....	Wm. McClinchey.....	Aug. 16, 1913..	.....	300 00	
Owen Sound.....	W. H. Smith.....	April 25, 1912..	40 00	200 00	
Oshawa.....	W. T. Henry.....	Aug. 10, 1904..	.....	300 00	
Parry Sound.....	C. A. Thomson.....	June 2, 1914..	.....	200 00	
Penetanguishene.....	Peter Light.....	May 7, 1906..	14 50	200 00	
Port Arthur.....	B. Guerard.....	" 21, 1897..	169 00	300 00	
Port McNicoll.....	See Victoria harbour.				
Port Stanley.....	F. R. Dale.....	Aug. 13, 1912..	.....	200 00	
Rondeau.....	J. Claus.....	Nov. 27, 1913..	11 00	100 00	
Sault Ste. Marie.....	S. L. Penhorwood.....	May 2, 1912..	.....	300 00	
Southampton.....	W. H. Johnston.....	Oct. —, 1882..	15 00	100 00	
Sarnia.....	R. McAdam.....	May 3, 1886..	.....	300 00	
Trenton.....	Jos. Coutts.....	" 13, 1912..	.....	200 00	
Victoria.....	Thos. Nottingham.....	" 1, 1911..	41 00	200 00	
Whitby.....	J. Watson, jr.....	June 7, 1912..	23 50	200 00	

Quebec.

Amherst	John Cassidy.....	Sept. 2, 1878..	10 00	200 00	
Anse-aux-Gascons.....	John Mourant.....	June 28, 1905..	.....	100 00	
Bersimis.....	D. Thibault.....	Dec. 13, 1905..	.....	200 00	
Bic.....	F. Bellavance.....	April 25, 1912..	.....	200 00	
Bonaventure.....	F. Arsenaault.....	April 24, 1913..	.....	100 00	
Carleton.....	Emile Alain.....	July 11, 1913..	.....	200 00	
Cape Cove.....	R. J. Lenfesty.....	June 7, 1912..	.....	200 00	
Caplin River.....	T. Bourdages.....	April 20, 1907..	.....	100 00	
Chicoutimi.....	A. Sturton.....	June 8, 1886..	.....	200 00	
Escoumains.....	Vacant.				
Grand Entry.....	Andre Cyr.....	July 10, 1907..	.....	200 00	
Grand River.....	Geo. Belliveau.....	April 25, 1912..	.....	100 00	
Gaspe.....	F. T. Eden.....	April 1, 1889..	.....	500 00	
House Harbour.....	Gregoire Lafrance.....	Dec. 12, 1910..	33 00	200 00	
Lachine.....	Under Montreal Harb	our Commission.			
Maria.....	A. Cyr.....	Mar. 29, 1905..	5 00	100 00	
Matane.....	J. Levesque.....	Jan. 20, 1912..	.....	200 00	
Malbaie.....	J. Thompson.....	May 27, 1913..	30 00	500 00	
Metis.....	J. H. Ferguson.....	Mar. 10, 1896..	.....	200 00	
New Carlisle.....	J. Chishom.....	April 22, 1902..	.....	100 00	
New Richmond.....	F. X. Cormier.....	April 15, 1902..	32 00	200 00	
Nouvelle.....	J. Casey.....	Jan. 3, 1903..	13 00	200 00	
Oak Bay.....	T. Harper, Sr.....	July 12, 1904..	45 00	200 00	
Paspébiac.....	W. L. Kempffer.....	Sept. 2, 1900..	25 00	150 00	
Perce.....	E. Donoghue.....	Oct. 10, 1903..	12 00	100 00	
Port Daniel.....	B. Langlois.....	Feb. 21, 1907..	5 00	200 00	
Rimouski.....	A. P. St. Laurent.....	May 31, 1896..	42 00	200 00	
Rivière du Loup.....	F. E. Gilbert.....	Oct. 5, 1902..	12 00	100 00	
St. Godfroy.....	J. Grenier.....	June 5, 1905..	.....	100 00	
Montnagny.....	R. Fournier.....	May 23, 1913..	6 00	200 00	
St. Johns.....	G. H. Farrer.....	Mar. 20, 1897..	659 00	600 00	59 00
Sault au Mouton.....	Vacant.			200 00	
Sorel.....	Pierre Lavallee.....	Feb. 5, 1912..	745 50	500 00	245 50
Trois Pistoies.....	O. Drapeau.....	Nov. 25, 1911..		100 00	
Tadousac.....	A. Gingras.....	June 6, 1906..		200 00	

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LIST OF HARBOUR MASTERS—*Continued.**New Brunswick.*

Port.	Harbour Master.	Date of Appointment.	Gross Collections.	Remuneration.	Net Collections.
			\$ cts.	\$ cts.	\$ cts.
Alma.	G. W. Parsons.	May 2, 1898..	55 00	100 00	
Back Bay.	See Letete				
Baie Verte.	See Port Elgin				
Bathurst.	M. T. Daly.	April 15, 1907..	29 00	200 00	
Blacks and Beaver H'br.	E. W. Cross.	Sept. 17, 1883..		100 00	
Buctouche.	H. Hutchinson.	April 17, 1897..		100 00	
Campbellton.	W. W. Doherty.	Oct. 24, 1912..	156 50	200 00	
Campobello Island.	H. Calder.	April 25, 1912..		100 00	
Cape Bald.	J. L. Cormier.	Aug. 19, 1911..		200 00	
Cape Tormentine.	M. S. Treen.	May 13, 1901..	35 00	200 00	
Caraquet.	J. Lenteigne.	June 11, 1913..	12 00	150 00	
Chatham.	R. J. Walls.	April 13, 1898..	198 50	300 00	
	C. Brown, Deputy Harbour Master.	May 29, 1912..			
Cocagne.	J. T. Bourque.	June 23, 1905..		100 00	
Dalhousie.	W. S. Smith.	Mar. 19, 1888..	139 50	200 00	
Dorchester.	Jas. Shea.	Oct. 25, 1900..	27 50	200 00	
Fairhaven.	A. Calder.	July 30, 1901..	5 00	200 00	
Fredericton.	Vacant.				
Grand Harbour.	T. Ingalls, Sr.	April 19, 1907..	2 50	100 00	
Northern Grand Manan.	J. E. Gaskell.	Mar. 20, 1907..		100 00	
Gull Rock Channel.	G. A. Johnson.	Mar. 27, 1904..		100 00	
Harvey.	W. Wood.	June 9, 1903..	34 50	100 00	
Heron Channel.	G. N. Taylor.	Nov. 25, 1911..	15 00	200 00	
Hillsborough.	Jas. T. Gallagher.	June 26, 1912..	45 00	100 00	
Hopewell Cape.	J. H. Christopher.	June 26, 1899..	1 50	200 00	
Ledge of St. Stephens.	T. Holmes.	Dec. 17, 1913..		100 00	
L'Etang.	See Letete				
Letete.	H. W. Harris.	Feb. 16, 1906..		100 00	
Little Shippigan.	Jos. Beaudin.	Oct. 21, 1906..		100 00	
Moncton.	E. P. Cook.	July 4, 1912..		200 00	
Miscou Gully.	See Little Shippigan.				
Musquash.	J. McNulty.	Sept. 28, 1896..		100 00	
Newcastle.	John Russell.	June 27, 1904..		300 00	
North Head.	See Northern Grand Manan.				
Port Elgin.	C. Trenholm.	April 3, 1907..		200 00	
Pokemouche.	M. Landry.	May 13, 1901..		100 00	
Quaco.	See St. Martin.				
Richibucto.	J. A. Jardine.	May 11, 1874..	24 50	200 00	
Sackville.	Elijah Chase.	May 11, 1904..	3 50	200 00	
Seal Cove.	Wm. Russell.	Feb. 22, 1913..	12 50	100 00	
St. Andrews.	Wm. Clark.	Dec. 23, 1911..	78 00	100 00	
St. George.	Allan Stewart.	April 3, 1912..	62 00	100 00	
St. Stephen.	A. McWha.	July 9, 1914..	29 00	100 00	
St. Martin and Quaco.	A. S. Vaughan.	Nov. 1, 1912..	61 50	100 00	
Shediac.	R. H. Welling.	May 24, 1911..		300 00	
Great Shemogue.	Vacant.				
Little Shemogue.	Vacant.				
Shippigan.	C. Gionet.	June 25, 1912..	23 00	100 00	
Tracadie.	M. Sonier.	April 19, 1912..		100 00	
Waterside.	I. H. Copp.	Feb. 20, 1913..		100 00	
West Isles.	B. Simpson.	Sept. 27, 1901..		200 00	
Whitehead.	A. H. Cheney.	April 19, 1907..	3 00	100 00	

Nova Scotia.

Abbots Harbour.	F. U. D. Entremont.	May 23, 1901..		200 00
Advocate Harbour.	R. Dewis Atkinson.	May 2, 1913..	4 50	100 00
Amherst.	W. S. Tait.	Sept. 30, 1912..	22 00	300 00
Annapolis.	J. Lindgren.	July 7, 1898..	40 00	200 00

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LIST OF HARBOUR MASTERS—Continued.

Nova Scotia—Continued

Port.	Harbour Master.	Date of Appointment.	Gross Collections.	Remuneration.	Net Collections.
			p.c.	\$	\$ cts.
Annapolis Royal.....	See Annapolis.				
Apple River.....	W. Green.....	May 24, 1911..		200 00	
Arichat.....	Chas. V. Herbin ..	Nov. 27, 1913..	15 50	200 00	
Aspotogan.....	See Northwest Cove.				
Aspy Bay.....	See Bay St. Lawrence.				
Baddeck.....	F. L. McFarlane.....	Mar. 6, 1909..		100 00	
Barrington.....	R. L. Penny.....	June 8, 1914..	17 00	200 00	
Bayfield.....	D. Sutton.....	Mar. 22, 1910..	1 50	200 00	
Bay Shore.....	See Port Lorne.				
Bay St. Lawrence.....	J. W. Fitzgerald.....	Dec. 22, 1910..		200 00	
Bear River.....	Wm. McFadden.....	Sept. 27, 1897..	23 00	100 00	
Beaver Harbour.....	H. Hawbolt.....	Sept. 22, 1888..	15 00	100 00	
Belliveau Cove.....	F. LeBlanc.....	Dec. 6, 1912..	9 00	200 00	
Big Harbour.....	D. G. McKenzie.....	April 18, 1908..		100 00	
Bourgeois.....	See River Bourgeois.				
Bridgewater.....	W. Oakes.....	Jan. 28, 1896..	173 50	200 00	
Big Bras d'Or.....	D. Carey.....	Feb. 12, 1912..		200 00	
Big Pond.....	Vacant.				
Canning.....	F. A. McBride.....	Jan. 18, 1913..		200 00	
Cape Breton Pier.....	See Glasgow.				
Cape Canso.....	Geo. Oliver.....	Feb. 14, 1905..	2 00	150 00	
Cape Negro.....	R. D. Perry.....	May 18, 1881..	5 50	200 00	
Chebogue.....	W. L. Jenkins.....	Sept. 28, 1912..		200 00	
Chester.....	A. C. Corkum.....	July 8, 1896..	18 50	100 00	
Cheticamp.....	F. Aucoin.....	April 15, 1876..		100 00	
Clark Harbour.....	J. G. Nickerson.....	May 23, 1904..	32 50	200 00	
Clementsport.....	J. McCain.....	Oct. 18, 1898..		150 00	
Country Harbour.....	See Isaac's Harbour.				
Cow Bay.....	See Port Morien.....				
County line to Grand Narrows.....	Vacant.				
Cranberry Pt.....	See Little Narrows.				
Descouse.....	A. Langlois.....	Dec. 23, 1911..		100 00	
Digby.....	H. Anderson.....	June 19, 1902..	63 50	200 00	
East Bay.....	D. McGinnis (Ronald's son).....	April 5, 1886..		100 00	
East Jeddore.....	See Jeddore.....				
Englishtown.....	See St. Anns.....				
Fourchu.....	A. B. Hooper.....	April 23, 1912..		100 00	
Freeport.....	F. B. Prime.....	May 2, 1912..		200 00	
French Village.....	See St. Margaret's Bay				
Fuches Cove.....	See St. Anns.....				
Gabarus.....	Geo. Harris.....	Feb. 22, 1911..		100 00	
Getsons Cove.....	See Lahave.....				
Gillis Point East.....	See Little Bras d'Or Lake.				
Grand Narrows.....	See County line to Grand Narrows.				
Green Cove.....	See Port Maitland.				
Glace Bay.....	See Little Glace Bay.				
Glasgow and C.B. Pier, Sydney.....	A. McQuarrie.....	Oct. 30, 1880..	77 50	300 00	
Great Bras d'Or.....	See Big Harbour.				
Guysborough.....	T. O'Connor.....	April 2, 1913..		100 00	
Halifax.....	F. G. Rudolf.....	May 13, 1910..	1,822 50	1,800 00	22 50
Halifax Harbour.....	J. C. Watson.....	Nov. 16, 1912..		100 00	
Hantsport.....	Wm. McCulloch.....	Jan. 17, 1892..	47 50	300 00	
Hawkesbury.....	See Port Hawkesbury.				
Hubbards.....	N. C. McLean.....	Nov. 5, 1913..		200 00	
Indian Bay.....	See Jordan Bay.....				
Ingonish (North Bay).....	Angus McLean.....	April 21, 1910..	10 00	200 00	
" (South Bay).....	J. C. Williams.....	Nov. 25, 1912..	9 00	100 00	

5 GEORGE V., A. 1915

LIST OF HARBOUR MASTERS—*Continued.**Nova Scotia—Continued.*

Port.	Harbour Master.	Appointment.	Gross Collections.	Remuneration.	Net Collections.
			\$ cts.	\$ cts.	\$ cts.
Ingram River.....	E. Huntley.....	Jan. 19, 1907..	60 50	100 00	
International Pier, Sydney	M. J. Neville.....	Oct. 30, 1880..	350 50	300 00	50 50
Isaacs Harbour	T. D. Cook	June 19, 1900..	12 50	100 00	
Jeddore.....	J. F. Jennox	Aug. 5, 1912 ..	5 00	100 00	
Joggins Mines.....	A. Brine.....	Jan. 2, 1813..	22 50	200 00	
Jordan Bay	F. P. Thorburn.....	Mar. 11, 1901..	5 50	150 00	
Kelly Cove	Vacant.....			100 00	
LaHave.....	G. H. Zwicker.....	Feb. 25, 1875..	50 50	300 00	
L'Ardoise, Upper.....	Geo. Burke.....	Aug. 29, 1884..		100 00	
" Lower.....					
Larrys Road and River	See Torbay.				
Lingan					
Liscomb.	L. Wilson	Feb. 20, 1900..	9 00	200 00	
Little Bras d'Or Lake...	V. McLean.....	Sept. 23, 1907..		100 00	
" " Harbour.	J. M. LeBlanc.....	Oct. 9, 1909..	1 00	200 00	
Little Glace Bay.....	E. D. Rigby	May 8, 1884..	22 50	200 00	
Little Narrows				100 00	
Liverpool.....	W. G. Hemeon.....	Jan. 3, 1912..	121 50	200 00	
Lockeport	G. J. Locke.....	April 21, 1906..		100 00	
Louisburg.....	R. D. Kerr	July 26, 1912..	420 00	200 00	220 00
Lower East Jeddore	J. Townsend, Sr., deputy harbour master..	May 1, 1899..		150 00	
	See Jeddore.				
Lower L'Ardoise	See L'Ardoise.				
Lower Port Latour	See Port Latour.				
Lunenburg.....	J. B. Heckman.....	Oct. 1, 1909..	186 00	200 00	
Mabou.....	J. McInnis	July 11, 1900..	0 50	100 00	
Mahone Bay	A. Huson	Feb. 18, 1908..	20 50	200 00	
McNair Cove.....	R. McEachern.....	Mar. 8, 1875..		150 00	
McKinnon Harbour.....	D. Y. McNeil.....	Oct. 9, 1909..		200 00	
Main à Dieu.....	Vacant.....				
Marble Mountain.....	D. McDonald	July 26, 1892..		200 00	
Margaretsville.....	Vacant.....				
Margarets Bay	H. G. Garrison	Feb. 14, 1902..	3 50	100 00	
Margaree	F. P. Chiasson.....	Mar. 6, 1909..		100 00	
Marie Joseph.....	Chas. A. Dixon.....	Feb. 2, 1907..	1 00	100 00	
Merigomish	T. B. Olding.....	Mar. 11, 1910..		300 00	
Meteghan Harbour	J. McLair.....	Oct. 8, 1906..	8 00	100 00	
Meteghan River.....	L. A. Comeau.....	June 1, 1897..		100 00	
Middle South Harbour...	See Lunenburg.				
Mills Harbour.....					
Musquodoboit.....	Thos. Williams	May 31, 1905..	14 00	100 00	
New Haven	H. A. McLeod.....	Aug. 17, 1889..		100 00	
New Campbellton	See Big Bras d'Or.				
Neils Harbour.....	R. Payne.....	July 15, 1905..	1 00	100 00	
Noel.....	J. B. B. O'Brien	April 7, 1813..	12 50	200 00	
Northport.....	J. Davis.....	Dec. 21, 1903..	14 50	100 00	
Northeast Harbour.....	See Cape Negro.				
North Gut.....	See St. Anne.				
Northwest Cove.....	A. Setter.....	May 22, 1912..	1 50	200 00	
Ostrea Lake.....	See Musquodoboit.				
Parrsboro	W. R. Huntley.....	May 8, 1912..	67 00	300 00	
Petite de Grat.....	E. Bois.....	Feb. 9, 1912..	8 50	200 00	
Petite Rivière Bridge.....	J. N. Parks.....	April 27, 1888..		100 00	
Plaster Harbour.....	Vacant.....				
Port Beois.....	See Big Harbour.				
Port George.....	Chas. B. Weaver	May 1, 1877..		150 00	
Port Greville.....	A. Graham	April 27, 1909..	25 00	200 00	
Port Hawkesbury.....	John Lamey	June 2, 1909..	101 50	200 00	
Port Hastings	G. L. McLean.....	Feb. 15, 1908..	104 50	200 00	
Port Hood	J. H. Murphy, Jr.....	July 9, 1875..		200 00	
Port Latour.....	Wm. Sholds.....	Feb. 18, 1898..	3 50	200 00	

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LIST OF HARBOUR MASTERS—*Continued.**Nova Scotia—Concluded.*

Port.	Harbour Master.	Appointment.	Gross Collections.	Remuneration.	Net Collections.
			\$ cts.	\$ cts.	\$ cts.
Port Lorne.....	F. Beardsley.....	June 9, 1897.....	.....	200 00	.....
Port Maitland.....	J. W. Raymond.....	Feb. 20, 1914.....	.....	200 00	.....
Port Morien.....	H. McDonald.....	Mar. 3, 1879.....	.....	400 00	.....
" Mulgrave.....	Jos. Moore.....	Jan. 20, 1912.....	29 50	200 00	.....
" Midway.....	J. Hopking.....	Feb. 13, 1903.....	6 50	200 00	.....
" Philip.....	Vacant.	.....	.....	.....	.....
" Wade.....	A. Homes.....	Dec. 10, 1912.....	25 50	200 00	.....
Pubnico.....	P. Belliveau.....	Nov. 25, 1911.....	28 00	100 00	.....
Pugwash.....	Peter Stewart.....	Mar. 16, 1912.....	32 00	100 00	.....
Queensport.....	Alex. Carr.....	Feb. 20, 1914.....	.....	100 00	.....
Riteys Cove, see River- port.....	F. J. C. Creaser.....	Jan. 8, 1901.....	33 50	100 00	.....
River Bourgeois.....	E. C. Bouchie.....	April 9, 1886.....	3 50	100 00	.....
	Dan'l Fougère, Deputy Harbour Master.....	Aug. 12, 1889.....	.....	Pd. by H.M.	.....
River Hebert.....	W. Y. Theal.....	July 24, 1905.....	3 50	100 00	.....
River John.....	Campbell.....	June 1, 1891.....	.....	100 00	.....
St. Anns Bay.....	D. McAskill.....	May 2, 1913.....	33 00	200 00	.....
St. Marys River.....	S. E. Pride.....	Mar. 20, 1914.....	.....	200 00	.....
St. Peters Harbour.....	P. McNeil.....	Sept. 17, 1883.....	75 50	200 00	.....
St. Margarets Bay.....	See Margaret's Bay.	.....	.....	.....	.....
St. Ann's Harbour.....	Alex. McLeod.....	April 16, 1909.....	.....	200 00	.....
Sable Cape Island.....	See Clarke's Harbour.	.....	.....	.....	.....
Sambro.....	H. W. Smith.....	Feb. 18, 1913.....	19 50	200 00	.....
Sheet Harbour.....	Pat Coady.....	Aug. 5, 1912.....	.....	200 00	.....
Shelburne.....	J. M. Jordan.....	May 13, 1912.....	175 00	200 00	.....
Sherbrooke.....	See St. Marys River.	.....	.....	.....	.....
Ship Harbour.....	H. Siteman.....	Feb. 22, 1911.....	3 00	100 00	.....
Sonora.....	See St. Marys River.	.....	.....	.....	.....
South Bar.....	See Victoria Pier.	.....	.....	.....	.....
South West Cove.....	See North West Cove.	.....	.....	.....	.....
Sydney.....	See International Pier.	.....	.....	.....	.....
Spencers Island.....	B. McLellan.....	May 22, 1899.....	14 00	100 00	.....
Tangier.....	Alex. Mason.....	July 19, 1912.....	9 50	200 00	.....
Tenny Cape.....	Wm. Stephen.....	Sept. 16, 1912.....	.....	200 00	.....
Tatamagouche.....	Wm. Rielly.....	June 1, 1900.....	.....	200 00	.....
Tidnish.....	R. B. Davidson.....	Feb. 19, 1910.....	.....	100 00	.....
Tiverton.....	J. Blackford.....	April 3, 1900.....	6 00	100 00	.....
Torbay.....	I. Fougère.....	Aug. 25, 1903.....	8 00	200 00	.....
Tusket.....	C. Doucette.....	Nov. 21, 1902.....	.....	100 00	.....
Upper L'Ardoise.....	See L'Ardoise.	.....	.....	.....	.....
Upper Port Latour.....	See Port Latour.	.....	.....	.....	.....
Victoria Pier (South Bay)	Vacant.	.....	.....	.....	.....
Wallace.....	J. D. Patton.....	Feb. 14, 1898.....	1 00	100 00	.....
Wedge Port.....	H. A. Leblanc.....	Mar. 3, 1911.....	.....	100 00	.....
West Arichat.....	L. Forest.....	May 25, 1910.....	.....	100 00	.....
Walton.....	J. W. Weir.....	Nov. 25, 1911.....	67 50	200 00	.....
West Bay.....	Vacant.	.....	.....	.....	.....
Westport.....	W. B. Welch.....	Dec. 21, 1912.....	49 50	100 00	.....
	Albert Dakin, Deputy Harbour Master.....	Mar. 30, 1914.....	.....	.....	.....
West River.....	See Sheet Harbour.	.....	.....	.....	.....
Weymouth.....	A. Beaton.....	Mar. 11, 1912.....	.....	200 00	.....
Whitehead.....	Levi Munroe.....	Feb. 8, 1909.....	.....	200 00	.....
Whitehaven.....	See Whitehead.	.....	.....	.....	.....
Whycocomagh.....	N. Matheson.....	July 6, 1909.....	.....	100 00	.....
Windsor.....	C. W. Baird.....	April 10, 1912.....	123 00	300 00	.....
Wolfville.....	J. L. Franklin.....	Aug. 16, 1901.....	3 50	100 00	.....
Woods Harbour.....	G. Nickerson.....	Nov. 29, 1913.....	8 50	200 00	.....
Washabuck.....	See Little Bras D'Or.				
Yarmouth.....	R. M. Ferguson.....	April 27, 1912.....	209 50	250 00	

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LIST OF HARBOUR MASTERS—*Continued.**Prince Edward Island.*

Port.	Harbour Master.	Appointment.	Gross Collections.	Remuneration.	Net Collections.
			\$ cts.	\$ cts.	\$ cts.
Alberton.....	A. Kinch.....	July 19, 1912..		200 00	
Bay Fortune.....	J. R. Coffin.....	Apr. 29, 1878..		200 00	
Brudenell.....	J. A. Gordon.....	Oct. 26, 1905..		200 00	
Cardigan River Bridge..	H. McDonald.....	July 2, 1878..		200 00	
Cardigan River to Mitchell River.....	See Upper Cardigan River.				
Cove Head.....	M. Kielley.....	Apr. 23, 1914..		100 00	
Charlottetown and Hillsboro River.....	Jos. Ryan.....	May 3, 1912..	150 50	400 00	
Crapaud.....	W. Myers.....	June 17, 1874..		200 00	
Egmont Bay.....	H. Reeves.....	May 16, 1913..	1 00	200 00	
Georgetown.....	Sam Hamphill.....	Dec. 17, 1912..		200 00	
Grand River.....	I. Howlett.....	Aug. 26, 1912..		200 00	
Grand Tracadie.....	Jas. McAulay.....	Apr. 8, 1910..		200 00	
Hillsboro.....	See Charlottetown.				
Malpeque.....	Vacant.				
Miminegash.....	M. D. Lacy.....	Jan. 30, 1914..		100 00	
Montague Bridge.....	Vacant.			200 00	
Murray Harbour.....	G. Billard.....	Oct. 30, 1913..		200 00	
Murray River.....	Vacant.				
New London.....	J. Delaney.....	Apr. 28, 1914..	4 00	200 00	
Pinette.....	J. D. McDonald.....	Oct. 22, 1913..	0 50	100 00	
Port Hill.....	Vacant.				
Pownal.....	M. Haley.....	Mar. 30, 1897..		100 00	
Rollo Bay.....	Vacant.				
Rustico.....	T. Pineau.....	June 9, 1914..		200 00	
St. Peters Bay.....	Geo. Barry.....	May 3, 1901..		200 00	
Souris, East and West..	Jos. Tierney.....	" 15, 1905..	30 50	200 00	
Summerside.....	Jno. Matheson.....	Feb. 8, 1907..		200 00	
Tignish.....	J. E. Richards.....	Sept. 16, 1912..		100 00	
Tracadie.....	See Grand Tracadie.				
Tryon.....	Vacant.				
Upper Cardigan River..	D. McKenzie.....	June 14, 1913..		100 00	
Vernon River Bridge...	J. Finlay.....	Oct. 9, 1884..	2 00	200 00	
West River.....	Vacant.				
Woods Island.....	Jas. Young.....	May 22, 1899..		100 00	

British Columbia.

Chemainus.....	L. G. Hill.....	April 24, 1906..	16 50	200 00	
Comox.....	B. S. Abrams.....	June 12, 1914..		200 00	
Ladysmith.....	I. E. Lowe.....	" 26, 1912..	13 00	200 00	
Nanaimo (Departure Bay)	J. S. Knarston.....	Oct. 26, 1905..	382 00	500 00	
New Westminster now	under Hbr. Com.....		211 00	400 00	
Snug Harbour.....	J. W. Davies.....	July 19, 1911..	3 00	200 00	
Vancouver.....	A. H. Reid.....	Jan. 30, 1911..	866 50	600 00	266 50
Victoria-Esquamalt...	C. E. Clarke.....	Nov. 3, 1894..	657 00	600 00	57 00
Prince Rupert.....	E. McCroskie.....	Mar. 16, 1912..	242 50	600 00	
Quadra.....	Vacant.				
Union.....	See Comox.....		302 50	200 00	102 50

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STATEMENT of Sick Mariners' Dues during the Fiscal Year ending March 31, 1914.

Name of Port.	Amount.	Name of Port.	Amount.
	\$ cts.		\$ cts.
QUEBEC.		NOVA SCOTIA— <i>Con</i>	
Gaspé	70 08	Lockeport	18 17
Montreal	7,030 40	Lunenburg	286 13
Paspebiac	185 33	North Sydney	1,082 74
Perceé	72 20	Parrsboro.	316 90
Quebec	8,236 32	Pictou	273 09
Rimouski	161 51	Port Hawkesbury	100 89
St. Johns	1,246 74	Port Hood.	14 10
Sorel	80 65	Shelburne	61 66
Three Rivers	60 08	Sydney	3,541 80
	17,148 32	Truro	4 91
		Weymouth	181 53
		Windsor	903 21
		Yarmouth	404 83
NEW BRUNSWICK.			25,339 91
Campbellton	426 88	BRITISH COLUMBIA.	
Chatham	653 86	Nanaimo	2,512 16
Dalhousie	608 82	New Westminster	97 99
Fredericton	49 41	Prince Rupert	532 15
Moncton	696 07	Vancouver	5,206 47
Newcastle	413 20	Victoria	8,778 51
Sackville	108 58		17,127 28
St. Andrews	51 82	PRINCE EDWARD ISLAND.	
St. John	7,598 36	Charlottetown	282 26
St. Stephens	71 10	Summerside	73 62
	10,678 10		355 88
NOVA SCOTIA.		GRAND TOTAL OF PROVINCES.	
Amherst	294 90	Quebec	17,148 32
Annapolis Royal	191 69	New Brunswick	10,678 10
Antigonish	0 81	Nova Scotia	25,339 91
Arichat	13 50	British Columbia	17,127 28
Baddeck	56 48	Prince Edward Island	355 88
Barrington	11 37		70,649 49
Bridgewater	340 85		
Canso	42 81		
Digby	132 72		
Halifax	16,968 99		
Kentville	3 13		
Liverpool	92 70		

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MARINE REGISTERS, FEES, 1913-14.

Name of Port.	Amount.	Name of Port.	Amount.
ONTARIO.	\$ cts.	MANITOBA.	\$ cts.
Kingston.....	3 05	Winnipeg.....	1 20
Ottawa.....	1 00		
Toronto	3 92	BRITISH COLUMBIA.	
Total.....	7 97	Victoria.....	15 92
QUEBEC.		PRINCE EDWARD ISLAND.	
Montreal.....	6 40	Charlottetown.....	1 00
Quebec.....	8 96		
Total.....	15 36	TOTALS.	
NEW BRUNSWICK.		Ontario.....	7 97
.....	Nil.	Quebec	15 36
NOVA SCOTIA.		Nova Scotia.....	11 40
Halifax	3 40	New Brunswick.....	
Liverpool.....	25	Manitoba.....	1 20
Lunenburg.....	5 00	British Columbia.....	15 92
Shelbourne.....	1 40	Prince Edward Island	1 00
Yarmouth.....	1 35	Grand total.....	52 85
Total.....	11 40		

SIGNAL STATION DUES.

Name of Port.	Amount.
PROVINCE OF NOVA SCOTIA.	\$ cts.
Halifax.....	751 00

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STATEMENT OF STEAMBOAT INSPECTION FEES COLLECTED DURING THE FISCAL YEAR
ENDED MARCH 31, 1914.

Name of Port.	Amount.	Name of Port.	Amount.
ONTARIO.		BRITISH COLUMBIA.	
	\$ cts.		\$ cts.
Port Arthur.....	45 68	Vancouver	615 20
Windsor.....	138 40	Victoria.....	534 80
Total.....	184 08	Total.....	1,150 00
QUEBEC.		TOTAL OF ALL PROVINCES.	
Quebec.....	146 16		
NEW BRUNSWICK.			
St. John.....	602 00		
NOVA SCOTIA.			
Halifax.....	1,258 56	Ontario.....	184 08
Kentville.....	92 64	Quebec.....	146 16
North Sydney.....	115 44	New Brunswick.....	602 80
Shelbourne.....	6 47	Nova Scotia.....	1,473 11
Total....	1,473 11	British Columbia.....	1,150 00
		Total.....	3,556 15

STATEMENT of Expenditure of Marine Branch from Confederation to March 31, 1914.

	\$ cts.		\$ cts.
1868.....	371,070 56	1891	885,410 11
1869.....	360,899 90	1892	861,426 80
1870.....	367,189 11	1893.....	898,720 03
1871.....	389,537 12	1894.....	905,654 34
1872.....	518,958 49	1895.....	895,828 28
1873.....	706,817 92	1896.....	793,634 49
1874.....	845,150 90	1897.....	867,772 90
1875.....	844,586 09	1898.....	856,192 50
1876.....	970,146 27	1899.....	1,102,601 90
1877.....	820,054 38	1900.....	982,561 97
1878.....	786,156 23	1901.....	1,029,925 32
1879.....	755,359 47	1902.....	1,501,618 88
1880.....	723,390 89	1903.....	1,671,494 77
1881.....	761,730 62	1904.....	2,150,940 31
1882.....	774,831 53	1905.....	4,747,722 81
1883.....	825,010 82	1906.....	5,066,252 66
1884.....	927,241 61	1907.....	3,637,599 82
1885.....	1,129,901 14	1908.....	5,374,774 18
1886.....	980,120 59	1909.....	4,692,806 85
1887.....	917,557 31	1910.....	4,197,420 24
1888.....	883,250 85	1911-12.....	4,911,140 67
1889.....	1,023,801 34	1912-13.....	5,213,223 55
1890.....	807,417 53	1913-14.....	5,828,027 37

APPENDIX No. 6.

METEOROLOGICAL SERVICE.

TORONTO, May 1, 1914.

SIR,—I have the honour to submit the forty-third annual report of the Meteorological Service for the fiscal year ended March 31, 1914, with appendices A and B reports of the observatories at Quebec city, Que., and St. John, N.B.

Reports have been received at the central office from 657 stations, including telegraph reporting stations, climatological and storm signal stations. For various duties in connection with the service, 322 persons, chiefly observers, have been in receipt of remuneration, and of this number thirty-six were employed in the central office.

The collection of reports from over 500 climatological stations, the computation of mean values, and the preparation of abstracts for publication entail an enormous amount of work in the statistical branch of the head office, but changes of method and the reorganization of this work noted in my last report have worked out satisfactorily, and the issue of reports has been facilitated. Still further improvement is expected during the coming year.

A new branch of the service has been inaugurated for the study of agricultural meteorology, with Mr. R. W. Mills, B.S.A., in charge. The importance of scientific investigation of the relationship between the weather and the growth of crops has thus been recognized, and it is proposed to co-operate in the scheme outlined conjointly by the "International Meteorological Committee" and the "International Institute of Agriculture."

FORECASTS AND STORM WARNINGS.

Bi-daily synchronous weather charts have been compiled on every day throughout the year, Sundays and holidays included, based on telegraphic reports from thirty-nine stations in Canada, 100 from the United States, five from Newfoundland, and one from Bermuda. These charts have formed the basis of the forecasts and storm warnings which have been issued from Toronto for all the provinces, exclusive of British Columbia. Nearly every newspaper in the Dominion has published these forecasts, and in addition to this journalistic dissemination, special copies of all weather bulletins have been distributed quite widely in the larger centres of population, and at the seaports. Arrangements have also been made for a more general distribution of the forecasts over the various provincial telephone systems, and the Bell Telephone Company has agreed to furnish the forecasts free of charge to all their subscribers connected with a central exchange to which a weather bulletin is furnished. The daily bulletin compiled in Winnipeg, and including some forty-four reports from places in the western provinces, as well as the central office forecasts, has been improved and more widely distributed both in Winnipeg and the larger centres of the West.

Storm warnings have been issued to 111 display stations in Canada and four in Newfoundland, and of 2,271 warnings issued 95 per cent were verified by subsequent high winds; 304 warnings were received late, 186 owing to issue, and 118 owing to telegraphic delays. The storm-signal mast has been transferred from Port Hastings to Point Tupper, N.S.

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Forecasts have been telegraphed twice daily to Newfoundland, and storm warnings were issued when it was deemed expedient. In all no less than fifty-four separate warnings were sent, covering 181 stations, but so far no word of any kind has been received from that country, as to the verification of the warnings which, the records of the salaried observers seem to show, have been most satisfactory.

PHENOLOGICAL OBSERVATIONS.

A valuable work performed at the central office has been the collection of phenological statistics by observers and others connected with the meteorological service, and this has been done under the supervision of Mr. F. F. Payne.

MAGNETIC OBSERVATIONS.

Records of the various magnetic elements were secured at the observatory, Agincourt, without interruption throughout the year. The zeros of the differential photographic recording instruments were determined by absolute observations as formerly, weekly for declination, and twice monthly for horizontal force. Absolute observations of inclination were made weekly with the Toepfer Earth Inductor.

Westerly declination has increased from $6^{\circ} 17.1'$ in March 1913, to $6^{\circ} 22.4'$ in March 1914. The horizontal force has decreased from 0.16150 C.G.S. units to 0.16099, and the inclination has increased from $74^{\circ} 40.7'$ to $74^{\circ} 41.7'$.

The year was marked by the absence of large magnetic disturbances and the very infrequent occurrence of even smaller disturbances; 233 days were classified as calm, 126 as lightly disturbed, and six days as disturbed. The largest disturbance of the year occurred on May 5 and 6. The range of declination during the disturbance was $55'.0$ and in horizontal force the range was 121.

The mean diurnal range of declination varied from a maximum of $12.5'$ in August 1913, to a minimum of $4.2'$ in February 1914, whilst that of horizontal force varied from a maximum of 38γ to a minimum of 10γ in corresponding months.

During the year, index corrections for the magnets attached to eighty-eight surveyors' theodolites were determined, and supplied to the Surveyor General.

Assistance and instruction were given to several surveyors in the use of the total force instrument, and in the determination of their constants, both before and after their field work.

Assistance was also given to Mr. French, of the Ottawa Dominion Observatory, in getting comparisons between his field instruments and the Agincourt standards.

Mr. W. H. McKinlay, who was appointed to the Steffansson expedition as magnetician, was given thorough instruction in the use of the magnetic instruments, and was furnished with all necessary instruments and books for properly carrying on magnetic survey work.

A collaboration of the magnetic data obtained since 1872 at Toronto and Agincourt is also in progress, by Mr. W. E. Jackson, B.A., who, with Mr. William Menzies, carries on the work of the magnetic observatory.

TIME SERVICE.

During the year ended March 31, 1914, seventy-one determinations for time were made by transit of stars, and eleven solar transits in the meridian with the 3-inch Troughton & Simms transit instrument. The sky was very much clouded during the autumn and early winter months. The positions of the stars have been taken from the American Ephemeris and Berliner Jahrbuch. The collimation error of the transit instrument has been determined by the usual method of reversal on polaris and in conjunction with that of the instrumental azimuth by star transits in reverse position of the axis, using the method of least squares in their computation.

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Time has been given over the telegraph and telephone lines to all inquirers. A greatly increased demand is now being made on the time service, and to meet this there is now being installed one of the large "Magneta Clocks" of four circuits, capable of controlling 120 secondary clock units, and also a new seconds mean time clock, in the main building for convenient use in giving time over the telephone. Both these clocks are being equipped for synchronization with the standard mean time clock in the clock room. With this additional increase to the present clock equipment, the time service will be in a position to control and synchronize any of the master clocks running large secondary clock systems in various parts of the city.

The usual time exchanges between Toronto and Quebec, Montreal and St. John, N.B., have been made, being recorded on the chronographs at Toronto, Montreal, and St. John. The errors of the clocks have been computed from the latest observations. The 11.55 a.m. signals have been given over the fire alarm systems throughout the year.

Time has been given weekly to the magnetic observatory at Agincourt, and daily to the Canadian Northern Railway, running out of Toronto.

The following table will show the differences between the times at the several observatories and that at Toronto. The sign + indicates slow of Toronto.

Date.	Montreal.	Quebec.	St. John.
1913.	Seconds.	Seconds.	Seconds.
April 11	-1 26	-0 74	-0 50
April 25	-2 33	-1 46	-0 51
May 9	+1 19	+1 49	-0 11
May 30	-2 05	-1 31	+0 43
June 13	-1 96	-0 49	-0 72
July 11	-2 00	-0 05	-0 15
July 25	-1 90	+0 53	+0 54
August 29	+0 33	+0 34	
September 19	-2 35	+0 12	-0 48
October 10	-2 51	-0 03	-0 67
October 31	-1 04	-0 03	+0 17
November 14	-1 53	+0 95	-0 19
November 28	-1 31	-1 06	-0 52
December 19	-1 40	+0 32	-0 10
1914.			
January 16	-3 61	+0 22	-1 58
February 6	-1 45	+1 01	-0 10
February 27	+0 04	+2 41	+0 85
March 30	-1 31	+0 32	-0 33

SOLAR OBSERVATIONS.

The sun was observed upon 144 days, on 130 of which it was without spots. From April 1 to September 8, 1913, was a period during which the sun was spotless as far as the observations taken would show, but quite a number of cloudy intervals was experienced. The following are the days on which spots were seen:—

1913. September 8; October 6, 7; November 24, 25; December 11, 12, 30.

1914. February 2, 3, 5; March 16, 17, 31.

Maps of these days were made showing the position of the spots—the north, south, east and west points of the sun's disc being shown; also the sun's axis and equator.

PHYSICS BRANCH.

The exploration of the upper atmosphere by means of balloons and kites has been continued satisfactorily, as fourteen records of pressure and temperature from heights ranging between 5 and 10 miles above the earth's surface have been obtained.

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The following table gives a summary of the balloon records:—

Date.	A	B	C	D	E	F	G
1913.		°		°			°
May 6.....	8.1	-88	13.0	-74	NE.	90.1	N. 65 E.
May 9.....	7.5	-71	9.9	-69	S.	193.2	S. 80 E.
August 6.....	7.2	-59	8.1	-58	W.	94.4	S. 60 E.
September 4.....	9.1	-98	10.9	-80	SW.	83.9	S. 40 E.
October 1.....	9.4	-76	9.4	-76	N.	62.1	S. 75 E.
November 5.....	7.7	-98	9.1	-91	SE.	176.0	S. 22 E.
November 7.....	7.2	-83	7.8	-80	N.	211.3	N. 65 E.
December 4.....	6.4	-61	6.6	-59	SE.	105.0	S. 40 E.
1914.							
January 8.....	6.4	-59	7.7	-51	N.	152.0	S. 78 E.
February 2.....	5.6	-57	9.6	-69	E.	142.3	S. 84 E.
February 3.....	6.5	-76	7.8	-61	NW.	182.1	N. 70 E.
February 5.....	5.2	-63	6.5	-55	E.	193.2	N. 70 E.
February 6.....	6.2	-78	6.2	-78	W.	220.0	N. 86 E.

A—Height in miles to beginning of stratosphere.

B—Temperature Fahrenheit at beginning of stratosphere.

C—Greatest height, in miles, reached by balloon.

D—Temperature Fahrenheit at greatest point.

E—Direction balloon travelled at starting point.

F—Distance, in miles, of point where balloon fell from starting point.

G—Bearing of point where balloon fell from starting point.

A continuous record of the potential of the air has been obtained from the self-recording electrometer, and, when possible, daily observations of solar radiation have been obtained from the Angstrom Pyrheliometer.

SEISMOLOGICAL OBSERVATIONS.

The Milne seismographs at Toronto and Victoria, B.C., have been kept in operation throughout the year, and no change has been made in the adjustments of the instruments, the booms being kept at a period of 18 seconds. There has been a marked absence of any very large movement. The total number of disturbances recorded at Toronto was 105, and at Victoria 98, of which 85 per cent were less than 1 millimetre in amplitude. The most important of the series were on May 30, June 26, August 6, October 2, and March 30, the maximum amplitude varying from 3 to 10 millimetres. The earthquake centre of the quake of June 26 was in the Tonga group of islands; that of August was in Peru; October 2 in the Panama zone, and March 30 probably in the Caribbean sea. On February 10, at 1 h. 32.5 m., was recorded a pronounced local earthquake, the swing of the boom being 2.3 mm. This earthquake was felt throughout Ontario, Quebec, New England and New York States, and as far south as Washington, D.C. It was still more severely felt in the St. Lawrence valley. In Toronto, pictures on the walls swayed, and tall buildings perceptibly vibrated; no damage was done. The last local quake recorded by the instrument occurred on May 27, 1912, but was of less extent than that of February 10.

Monthly reports of all seismic tabulations, and copies of all the more important records of disturbance are sent to the central earthquake observatory of the British Association, and also to the International Seismological Institution at Strassburg, Germany, and to various observatories.

The increased request for copies of our observations from all parts of the world indicate a growing interest in seismology, and marks the importance of our Canadian observations in helping to arrive at the solution of the laws governing disastrous earthquakes.

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The number of chief and telegraph-reporting stations has not changed, but the instrumental equipment has, in most instances, been augmented. The importance of having a chief meteorological station in each province, to which persons seeking information may either go or write, has been rendered very apparent by the useful work performed at Victoria, Edmonton, and Moosejaw, respectively, the chief stations for British Columbia, Alberta, and Saskatchewan. I hope in the near future to open such a station in Manitoba, and to arrange for a broadening of the St. John Observatory work in relation to the Maritime Provinces. New observers have been appointed at Swift Current and White River in place of those who have resigned.

A small observatory building has been erected on Gonzales Hill, Victoria, B.C., which will afford better facilities for carrying on both the forecast work of British Columbia, and the seismological research which, under Mr. F. N. Denison's enthusiastic attention, has become one of the most important subjects of scientific investigation in Victoria. Mr. Denison has been placed in charge of the new observatory and the forecasting, while Mr. E. Baynes Reed, remains in charge of the climatological work which he has so ably conducted in the past.

A local meteorological office has been established in Vancouver, where persons requiring information regarding the weather may apply. The daily time signals for the port will also be given from this office, and ship captains may there have their chronometers rated.

An observatory has also been erected in St. John, N.B., where the accommodation contained in the former building had become inadequate for both meteorological and time service requirements. The report of the observatory is Appendix B.

Officers of the inspection division visited the following places during the fiscal year, giving instructions, adjusting instruments, selecting sites, and performing such work as comes under the heading of "Inspection": Port Hope, Cobourg, Deseronto, Kingston, Prinyer, Picton, Fort Churchill, York Factory, White River, Nipigon, Rossport, Heron Bay, Grassett, Chapleau, Bisco, Sault Ste. Marie, Port McNichol, Shawinigan Lake, Nanaimo, Esquimaux Point, Harrington harbour, Natashquan, Long Point of Mingan, Thunder River, Moisie, Seven Islands, Chicoutimi, Chicoutimi West, Tadoussac, Sherbrooke, Stonecliffe, Winnipeg, Port Arthur, Fort William, Minnedosa, Qu'Appelle, Moosejaw, Swift Current, Medicine Hat, Calgary, Edmonton, Prince Albert, Battleford, Banff, Vancouver, Victoria, St. John, Grand Manan, St. Andrews, Digby, Yarmouth, Parrsboro, Wolfville, Halifax, Truro, Point Tupper, Canso, Sydney, North Sydney, Louisburg, Port Morien, Bay St. Lawrence, Dingwall, Neils Harbour, North Ingonish, South Ingonish, Breton Cove, New Campbellton, Cranberry Head, Alder Point, Glace Bay, Lower L'Ardoise, Petit de Grat, Port Hood, Grand Etang, Cheticamp, Margaree harbour, Point du Chene, Richibucto, Bathurst, Caraquet, Shipigan, Dalhousie, Point St. Peter, S. W. Point, Anticosti, Amherstburg, Pelee island, Port Stanley, Parry Sound and Kamloops.

Close inspection of stations is essential to the proper and efficient carrying on of the work of the service, and also to ensure that instruments are being kept in proper adjustment, and that the regulations of the service are being interpreted in the same uniform manner throughout the Dominion. It is expedient that an officer of this service inspect localities in which it is proposed to establish paid stations of the service, and also that the telegraph reporting stations be inspected at least once each year.

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Climatological stations have been opened at the following places:—

BRITISH COLUMBIA.

Class II	Alert Bay.....	Miss A. Nevill.
" II	Britannia Beach.....	J. W. D. Moodie.
" II	Boswell.....	Mrs. K. Wallace.
" II	Cobble Hill.....	A. Allen.
" II	Chinook Cove.....	Malcolm White.
" II	Cranberry Lake.....	John Boez.
" II	East Arrow Park.....	Henry Miller.
" II	Fernie.....	Charles E. Murphy.
" II	Fifteen-mile Ranch, Pavilion, P.O.....	L. Hoover.
" II	Gillis Bay.....	P. A. Staaf.
" II & S	Invermere.....	G. E. Parham.
" III	James Island	Wm. G. Round.
" II	Ladysmith	John Stewart.
" II	Mary Island	James Milne.
" II	Okanagan Centre.....	J. W. Fowler.
" II	Perry Siding	E. W. Dawdney.
" II	Qualicum Beach.....	Captain G. Lake.
" II	Sooke Lake.....	J. P. McNeill.
" II & S	Sidney.....	Samuel Spencer.
" III	Stamps Falls	R. C. McNight.
" II	Vanvenby	J. L. Moillette.
" II	Westley.....	H. G. Slatter.

ALBERTA.

Class II	Alsask.....	F. C. Bohannon.
" II	Brazeau.....	G. Blyth.
" III	Clarinda	Mrs. Francis Clark.
" II	Claresholme.....	J. C. Hooper.
" II	Expanse Coulee.....	J. E. Lloyd.
" II	Edson	P. F. Robin.
" I	Fort Smith.....	.....
" II	Grande Prairie.....	S. J. Webb.
" II	Jasper	Lt. Col. S. Maynard Rogers.
" II	Lloydminster.....	H. M. Bennett.
" II	Medicine Hat.....	Neil McKinnon.
" II	Perbeck.....	F. Saggars.
" II	Ronalane.....	F. H. Kelly.
" II	Stony Plain.....	W. D. Breckon.
" II	Sedgewick	H. H. McIntyre.
" II	Springdale.....	D. G. Glyde.
" II	Suffield.....	W. C. Hutchinson.
" II	Vermillion	W. H. Scott.
" III	Battle Creek	Angus MacKinnon.

SASKATCHEWAN.

Class II	Strongfield.....	A. Synder.
" II	Pelly.....	H. N. Lea.
" II	Whitewood.....	Joseph Callin.

ONTARIO.

Class II	Big Chute, Buckskin.....	Peter Ritchie.
" II	Bisco.....	T. L. Barker.
" II	Chapleau	A. L. Smith.
" II	Dryden.....	R. G. Wiggle.
" II	Grassett	J. H. Ruest.
" II	Grimsby North.....	E. W. Bowslaugh.
" II	Heron Bay	C. A. Oehm.
" II	Ignace	John Davies.
" II	Morrisburg	L. W. Barkley.
" II	Meaford.....	Miss J. E. Barbour.
" II	Niagara Falls.....	A. Collins.
" II	Nipigon.....	J. J. Barker.
" II	Oscar	N. F. Gale.
" II	Rainy River.....	W. J. Harris.
" II	Shoal Lake.....	Charles E. Aitken.
" II	Sunbridge.....	D. MacDonald.
" II	Savanne	A. Brotherton.
" II	Sioux Lookout.....	James White.
" II	Tobermory	W. J. Smith.
" II	Wewaitin.....	N. C. Power Co.

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QUEBEC.

Class II	Amos.....	H. Authier.
" II	Beauceville.....	Rev. Fr. Antonin.
" III	Comfort Point.....	A. R. Scharf.
" III	Causapsal.....	Rev. Cure Z. Belles Isles.
" II	Drummondville.....	Rev. Fr. Romulus
" II	Huberdeau.....	R. J. L. Salomoni.
" II	Huntingdon.....	A. Sellar.
" II	Joliette.....	Rev. L. J. Morin.
" II	La Loutre Rapids.....	P. A. Shaw.
" II	Murray Bay.....	Rev. M. P. Hudon.
" II	Maniwaki.....	Rev. Sr. Ste. Valeria.
" II	Megantic Lake.....	Rev. Bro. Amable.
" II	Nominig.....	Rodolphe Mercure.
" II	Nicolet.....	Rev. J. A. Bellerin.
" II	St. Lin des Laurentides.....	Rev. Fr. Francis.
" II	Stag Island.....	L. T. Bowes.
" II	Tadoussac.....	Rev. J. A. L. Blais.
" II	Ville Marie.....	Rev. J. B. Levesque.

NEW BRUNSWICK.

Class II	Edmunston.....	J. C. Carruthers.
" II & S	Fredericton Experimental Farm.....	W. W. Hubbard.
" II	Grand Falls.....	H. Callaghan.
" II	Woodstock.....	M. Ryan.

NOVA SCOTIA.

Class II & S	Kentville Experimental Farm.....	W. S. Blair.
" II	Liverpool.....	Miss J. E. Mullins.
" II	Sutherland River.....	E. W. Heurtley.

PRINCE EDWARD ISLAND.

Class II	Summerside.....	J. F. Lafferty.
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Respectfully submitted,

R. F. STUPART,
Director.

SESSIONAL PAPER No. 21

NUMBER OF PREDICTIONS AND PERCENTAGE OF FULFILMENT IN EACH DISTRICT IN EACH MONTH, FOR THE YEAR APRIL 1, 1913, TO MARCH 31, 1914.

Month.	Alberta.					Saskatchewan.					Manitoba.					Lake Superior.					Lower Lake.					Georgian Bay.				
	No. of predictions.	No. fully verified.	No. partly verified.	No. not verified.	Percentage verified.	No. of predictions.	No. fully verified.	No. partly verified.	No. not verified.	Percentage verified.	No. of predictions.	No. fully verified.	No. partly verified.	No. not verified.	Percentage verified.	No. of predictions.	No. fully verified.	No. partly verified.	No. not verified.	Percentage verified.	No. of predictions.	No. fully verified.	No. partly verified.	No. not verified.	Percentage verified.	No. of predictions.	No. fully verified.	No. partly verified.	No. not verified.	Percentage verified.
1913.																														
April.....	78	71	6	194.9	78	61	15	287.8	78	64	11	389.1	82	24	4.85.5	110	82	28	24	4.85.5	112	93	13	688.8	110	91	12	788.2		
May.....	81	64	12	586.4	81	62	16	386.4	80	60	17	385.6	89	22	586.2	110	89	22	22	586.2	110	81	22	585.5	110	81	22	788.6		
June.....	74	50	16	878.4	75	48	18	976.0	78	55	15	880.1	71	27	1376.1	113	71	27	19	1376.1	113	88	21	289.8	113	88	21	487.1		
July.....	81	58	16	781.5	80	56	16	880.0	80	60	12	882.5	76	33	1674.0	125	76	33	14	1674.0	125	101	16	689.6	125	101	16	887.2		
August.....	82	63	13	684.7	81	62	11	883.3	83	66	11	886.1	85	21	1479.6	125	85	21	15	1479.6	125	105	8	887.6	125	105	8	1287.2		
September.....	75	52	14	978.7	71	45	15	1173.9	81	49	23	974.7	84	26	9.81.5	118	84	26	16	9.81.5	118	98	16	489.8	116	90	21	586.6		
October.....	77	59	8	1081.8	78	61	12	585.9	82	60	12	1080.5	69	30	1077.1	124	94	24	24	1077.1	124	100	21	685.5	124	100	21	389.1		
November.....	75	52	15	879.3	75	54	16	582.6	75	54	15	682.0	87	29	782.5	118	82	31	31	782.5	118	82	31	582.6	119	87	27	584.5		
December.....	81	67	14	91.4	81	62	15	485.8	81	69	7	589.5	88	22	9.83.2	125	96	23	23	9.83.2	125	96	23	686.0	125	96	23	686.0		
1914.																														
January.....	89	63	18	880.9	87	62	17	881.0	88	59	23	680.1	81	18	388.2	118	95	14	14	388.2	118	93	15	986.4	118	93	15	1085.2		
February.....	74	60	7	785.8	74	62	10	290.5	75	65	8	292.0	76	8	490.9	102	87	12	12	490.9	102	84	9	391.2	101	84	9	887.6		
March.....	76	62	10	488.2	76	68	6	293.4	77	59	13	585.0	63	17	8.81.3	105	87	12	12	8.81.3	105	81	19	688.6	108	81	19	883.8		
Totals.....	943	721	149	7384.3	937	703	167	6783.9	958	720	167	7184.0	951	277	10282.2	1336	1114	215	215	10282.2	1336	1097	214	6687.6	1394	1097	214	8386.3		

NUMBER OF PREDICTIONS and Percentage of Fulfilment in each District, &c.—*Concluded.*

Month.	Ottawa Valley.					Upper St. Lawrence.					Lower St. Lawrence.					Gulf.				
	No. of predictions.	No. fully verified.	No. partly verified.	No. not verified.	Percentage verified.	No. of predictions.	No. fully verified.	No. partly verified.	No. not verified.	Percentage verified.	No. of predictions.	No. fully verified.	No. partly verified.	No. not verified.	Percentage verified.	No. of predictions.	No. fully verified.	No. partly verified.	No. not verified.	Percentage verified.
1913.																				
April	93	76	13	4	88·7	94	78	13	3	89·9	97	76	17	4	87·1	114	81	21	12	80·3
May	89	79	8	2	93·3	89	76	11	2	91·6	107	86	17	4	88·3	111	78	29	4	83·3
June	102	81	19	2	88·7	102	82	18	2	89·2	119	83	25	11	80·3	120	74	35	11	76·2
July	110	90	18	2	90·0	110	92	16	2	90·9	124	92	24	8	83·9	126	82	34	10	78·6
August	93	76	8	9	86·0	92	79	4	9	83·0	105	82	9	14	82·4	115	84	11	20	77·8
September	94	74	18	2	88·3	92	78	12	2	91·3	122	89	21	12	81·6	121	93	17	11	83·9
October	93	78	13	2	90·9	93	76	12	5	88·2	103	70	28	5	81·6	111	76	21	14	77·9
November	99	72	19	8	82·3	99	72	20	7	82·8	119	80	29	10	79·4	122	91	24	7	84·4
December	116	89	21	6	85·8	117	89	25	3	86·8	127	92	31	4	84·6	127	97	24	6	85·8
1914.																				
January	103	85	11	7	87·9	103	86	10	7	88·3	103	86	4	13	85·4	114	98	6	10	88·6
February	93	72	18	3	87·1	92	75	14	3	89·1	94	81	12	1	92·5	100	86	10	4	91·0
March	102	80	17	5	86·8	102	80	18	4	87·3	118	89	14	15	81·4	119	85	24	10	81·5
Totals	1187	952	183	52	85·0	1185	963	173	4	988·3	6138	1006	231	101	84·4	1400	1025	256	119	82·4

Month.	Maritime West.					Maritime East.					Totals.				
	No. of predictions.	No. fully verified.	No. partly verified.	No. not verified.	Percentage verified.	No. of predictions.	No. fully verified.	No. partly verified.	No. not verified.	Percentage verified.	No. of predictions.	No. fully verified.	No. partly verified.	No. not verified.	Percentage verified.
1913.															
April	118	91	23	4	86·9	118	83	27	8	81·8	1200	947	195	58	87·0
May	109	91	15	3	90·4	109	90	17	2	90·4	1192	939	208	45	87·5
June	117	77	29	11	78·2	117	74	31	12	76·5	1241	875	273	93	81·5
July	126	92	28	6	84·6	126	95	25	6	86·1	1338	999	252	87	84·1
August	118	96	18	4	89·0	118	98	15	5	89·4	1257	998	144	115	85·1
September	124	90	30	4	84·7	124	87	32	5	83·1	1257	929	245	83	83·6
October	107	72	27	8	79·9	107	77	20	10	81·3	1208	892	228	88	83·3
November	120	94	18	8	85·8	120	91	22	7	85·0	1264	916	265	83	82·9
December	127	91	29	7	83·1	131	87	33	11	79·6	1357	1023	267	67	85·2
1914.															
January	124	95	14	15	82·3	124	90	17	17	79·4	1273	993	167	113	84·6
February	112	85	19	8	84·4	114	85	19	10	82·9	1119	918	146	55	88·8
March	121	90	27	4	85·5	121	89	27	5	84·7	1213	933	204	76	85·6
Totals	1423	1064	277	82	84·6	1429	1046	285	98	83·3	14919	11362	2594	963	84·9

SESSIONAL PAPER No. 21

APPENDIX A.

QUEBEC OBSERVATORY.

QUEBEC, April 20, 1914.

The Director, Meteorological Service,
Toronto.

DEAR SIR,—I have the honour to transmit my annual report for the year ending March 31, 1914, as follows:—

All the meteorological observations were taken daily without interruption, and the instruments are in very good order. A barograph, a hair hygograph and a self-recording rain gauge have been supplied to this station which is now provided with most of the instruments of a first-class meteorological observatory.

The weather bulletin issued by the central office has been posted regularly at the principal places of the city, and published in all the newspapers.

Inquiries respecting the weather conditions were very numerous, and statistics were prepared and furnished to the public, and also given in many cases before the courts.

Standard stars were observed on nearly every fine night, and the correct time given by means of the time ball, the noon gun and by telephone.

Several chronometers were rated, and barometers compared with our standard instrument and adjusted.

The present transit instrument has been in use for a considerable length of time and the time service would be very much improved if it were replaced. The equatorial telescope would require some repairs, but before putting it in good order a new tower should be erected and the old dome replaced to protect the instrument.

During the month of February last, I was requested to report as to the proposed improvements and necessary repairs to the buildings so as to make them in keeping with the National Battlefields Park in which they are situated.

After conferring with the authorities of the National Battlefields Commission, and taking the advice of the resident engineer of the Department of Public Works, I deemed it my duty to report that a new building was needed.

I have the honour to be, sir,

Your obedient servant,

ARTHUR SMITH,
Director, Quebec Observatory.

APPENDIX B.

METEOROLOGICAL SERVICE,

ST. JOHN OBSERVATORY,

ST. JOHN, N.B., April, 1914.

R. F. STUPART, F.R.S.C.,

Director, Meteorological Service,
Toronto.

SIR,—I have the honour to submit the following report upon the operations of the observatory at St. John for the fiscal year ending March 31, 1914.

METEOROLOGICAL SERVICE.

The usual meteorological observations, reports, and records have been continued without interruption. No changes have been made in the exposure of the instruments; all are in a most satisfactory condition. The bi-daily observations made at 9 a.m. and 9 p.m. have been immediately telegraphed to the central office at Toronto.

Requests for statistical information from the records were answered by letter, telephone, and to persons calling at the office; this considerably increases the clerical work, and during the past year these demands have been decidedly active. Adjustment of claims for demurrage, damage to goods in transit, etc., by frosts, gales, and heavy precipitation are made by reference to our wind and weather records. Requests for climatological statistics covering this district have been only partially dealt with, as the particular information sometimes required is not fully available here. In addition to the daily and monthly synopses supplied to the press, special items during periods of stormy, extreme and other conditions of interest to the public, are furnished for publication.

Through the courtesy of the New Brunswick Telephone Company, the Toronto forecasts are at the opening hour sent to all their offices where they are posted on forms supplied by the Meteorological Service. This extensive and valuable dissemination of the forecasts is most useful in localities where they are not available by telegraphic facilities.

WEATHER BULLETIN.

The daily weather bulletin has been issued each working day throughout the year, without change in form but with increased circulation. Immediately upon receipt of the telegram from the Central Office at Toronto, copy is typed and sent to the printer. It is promptly posted in public places, and distributed through the mail. Copies are supplied to and fully published by the afternoon newspapers, with the addition of local meteorological conditions. The forecasts, synopses, and reports from other stations contained in the bulletin are highly and justly valued by mariners, builders, shippers, and numerous interests affected by weather changes. The forecasts are immediately repeated to long distance telephone and their information bureaus, as well as to innumerable telephone calls. The day and night storm signal messages from Toronto are immediately forwarded by telephone direct to the display stations at Quaco and Point Lepreaux.

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TIME SERVICE OF THE MARITIME PROVINCES.

Observation for time with the meridian telescope have been made nearly every clear night to determine the errors and rates of the standard sidereal clocks. The transit micrometer method has been used entirely, the observation and clock signals being recorded on the chronograph are afterwards scaled and the clock errors computed.

CLOCKS.

The Riefler sidereal was subjected to considerable disturbance from heavy blasting the nearby site of new post office building, and from this cause could not be depended upon during a greater part of the year. The heavy blasts frequently caused this fine clock to jump from three to ten seconds. The Kullberg sidereal, alongside of the Riefler, in the basement constant temperature clock room was not so decidedly affected, and was depended upon during periods of cloudy weather to carry its rate, checked by frequent observations. In May, a Riefler invar pendulum compensated for air temperature and its stratifications, was fitted to the Kullberg clock; this clock is now giving most satisfactory results. In January, it was moved from the clock room to office and at the end of March the Riefler clock was dismantled to enable the transference of the stone piers to the new building nearing completion. The mean time transmitting clock and the mean time master clock which is used for hourly synchronizing electric clocks in this city have been giving most satisfactory service. Several additions have been made to the number of clocks on the hourly synchronizing circuit, the most important being the tower clock in Trinity church (known as the town clock). This was done by removal of the pendulum and the substitution of a half-minute magnetic release, electrically connected with a sub-master clock in the vestry, which is hourly corrected by the observatory signal.

The daily time signal sent over the Western Union wires for the two minutes ending at 10 a.m. of the 60th meridian is made use of by mariners at our seaports for chronometer comparisons, and is the standard of time for the Maritime provinces. The signal is automatically sent direct from the transmitting clock. At other hours, time signals are transmitted by request through telegraph or telephone, the beats from the clock relay being distinctly audible through long distance telephone. Since early in the year the 10 a.m. signal has been daily transmitted to Prince Edward Island. Formerly this was done at irregular intervals.

WIRELESS TIME SIGNALS.

The automatic apparatus at Camperdown, N.S., for repeating from land line to wireless has continued in operation. Navigators within the zone of that station are thus able to pick up this signal. Time balls at St. John and Halifax have been dropped each week day at 1 p.m. standard time of the 60th meridian. The synchronizing signal for the Halifax clock which automatically drops the time ball has been sent every week-day morning at 10 a.m., excepting occasions of wire trouble, when it was hourly repeated until satisfactorily received.

I have the honour to be, sir,

Your obedient servant,

D. L. HUTCHINSON,

Director, St. John Observatory.

APPENDIX No. 7.

ANNUAL REPORT OF THE MEDICAL SUPERINTENDENT OF THE
MARINE HOSPITAL SERVICE FOR THE FISCAL
YEAR 1913-14.

OTTAWA, April 29, 1914.

A. JOHNSTON, Esq.,
Deputy Minister of Marine and Fisheries,
Ottawa, Ont.

SIR,—I have the honour to submit the annual report of the transactions of the
Marine Hospital Service, for the fiscal year ended March 31, 1914.

I have the honour to be, sir,

Your obedient servant,

C. H. GODIN, M.D.,

Medical Superintendent, Marine Hospitals Service.

Amount of appropriation	\$65,000 00
Amount of expenditure.....	54,294 71
Balance not expended,.....	\$10,705 29

EXPENDITURE by Provinces.

Province.	Number of Seamen.	Number of days Treatment.	Total Expenditure.
			\$ cts.
Nova Scotia.....	1,597	10,607	24,710 56
New Brunswick.....	532	2,490	8,306 93
Prince Edward Island.....	221	748	1,979 79
Quebec.....	662	4,353	9,723 31
British Columbia.....	232	3,893	8,597 80
General Account.....	1	49	976 32
Total.....	3,245	22,140	54,294 71

SESSIONAL PAPER No. 21

TABLE showing the Expenditure for each Port.

Port.	Number of Seamen.	Number of days Treatment.	Total Expenditure.
<i>Nova Scotia.</i>			\$ cts.
Advocate Harbour and Apple River.....	18	25	461 22
Amherst.....	5	47	170 50
Annapolis Royal.....	16	73	226 71
Arichat.....	29	188	378 33
Baddeck.....	11	.....	79 00
Barrington.....	5	.....	300 00
Barton.....	15	1,033	720 84
Bear River.....	4	42	166 72
Bridgetown.....	3	.....	22 00
Bridgewater.....	20	.....	200 00
Canning.....	1	.....	10 00
Canso.....	37	84	435 71
Chester.....	4	21	86 25
Cheticamp.....	130	60	413 75
Cheverie.....	2	.....	16 50
Clark Harbour.....	6	39	270 38
Church Point.....	1	.....	5 50
Clementsport.....	3	7	80 50
Digby.....	35	10	304 30
Economy.....	1	.....	44 75
Freeport, Westport and Tiverton.....	25	950	822 05
Glace Bay.....	6	22	166 50
Halifax: Victoria General Hospital.....	142	2,421	3,664 00
Halifax Board of Health.....	3	44	151 01
Halifax Seamens' Society.....	.....	.....	200 00
Hantsport.....	6	.....	59 75
Ingramport.....	9	.....	29 75
Isaac Harbour.....	1	.....	3 00
Lahave.....	22	.....	376 50
Larry River.....	1	.....	2 50
Liscomb.....	2	17	41 50
Little Bass River.....	1	.....	26 75
Liverpool.....	8	.....	100 00
Lockeport.....	28	298	224 15
Louisburg.....	31	714	1,226 89
Lunenburg.....	14	620	1,375 63
Mahone Bay.....	10	.....	94 25
Marble Mountain.....	1	.....	6 00
Margaree.....	4	28	34 25
Margaretsville.....	6	81	401 50
Meteghan.....	2	49	57 25
Middleton.....	1	.....	168 85
Northport.....	6	.....	12 00
North Sydney.....	388	289	1,399 00
North Sydney Sailors' Institute.....	.....	.....	100 00
Ostrea Lake.....	1	.....	10 00
Parrsboro.....	41	.....	315 10
Pictou.....	94	116	696 00
Ports, Hawkesbury, Hastings, Mulgrave and Point Tupper.....	28	17	320 20
Port Clyde.....	7	.....	36 00
Port Dufferin.....	8	.....	68 75
Port Greville.....	3	.....	150 00
Port Latour.....	27	.....	125 00
Port Maitland.....	1	.....	3 00
Port Morien.....	3	.....	125 00
Port Wade.....	4	35	145 50
Pubnico.....	20	427	801 96
Pugwash.....	8	.....	16 00
River Hebert.....	11	.....	49 50
Salmon River.....	8	110	144 29
Sandy Cove.....	10	150	375 00
Sand Point.....	2	.....	8 00
Sheet Harbour.....	2	4	22 00
Shelburne.....	12	7	107 00
Springhill.....	4	252	380 55
Spry Bay.....	1		32 35

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TABLE showing the Expenditure for each Port—*Continued.*

Port.	Number of Seamen.	Number of Days Treatment.	Total Expenditure.
			\$ cts.
St. Peters, L'Ardoise and River Bourgeois.....	23		250 00
Sydney.....	81	2,035	3,929 20
Wallace.....	2		18 00
Walton.....	7	10	55 90
West Bay.....	1		6 00
Wedgeport.....	1		6 00
Weymouth.....	11	57	156 85
Wolfville.....	2		12 00
Windsor.....	40		120 00
Yarmouth.....	74	225	1,089 37
	1,597	10,607	24,710 56
<i>New Brunswick.</i>			
Alma.....	4		78 00
Baie Vert.....	1		5 55
Bathurst.....	3		150 00
Beaver Harbour.....	2	32	149 28
Buctouche.....	3		6 00
Campbellton.....	36	62	394 29
Cape Tormentine.....	8		150 00
Caraget.....	25		42 00
Dalhousie.....	27		250 00
Dorchester.....	4	9	45 63
Douglstown.....	37	268	1,905 09
Grand Harbour.....	10	28	192 25
Harvey and Riverside.....	2		21 00
Hillboro and Hopewell.....	13		150 00
Cape Jacquet River.....	1		11 00
Moncton.....	3		200 00
Northhead.....	6	2	23 60
Richibucto.....	6		200 00
Sackville.....	1	28	33 75
Shediac.....	6		200 00
Shippegan.....	166		347 50
St. Andrews.....	3		6 50
St. George.....	3		18 00
St. John: General Public Hospital.....	153	1,998	3,007 00
St. John Seamen's Society.....			200 00
St. John.....	1	16	24 00
St. Martin.....	7	47	495 49
St. Stephen.....	1		1 00
	532	2,490	8,306 93
<i>Prince Edward Island.</i>			
Alberton.....	10		43 00
Crapaud.....	1		19 00
Charlottetown Hospital.....	12	252	381 00
Prince Edward Island Hospital.....	12	341	511 50
Georgetown.....	3	25	39 00
Montague.....	9	2	41 75
Murray Harbour.....	11		100 00
New London.....	3		17 30
Rustico.....	2	42	175 65
Souris.....	71	57	343 64
Summerside.....	82	21	271 00
Tignish and Miminegash.....	5		36 95
	221	748	1,979 79

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TABLE showing the Expenditure for each Port—*Concluded.*

Port.	Number of Seamen.	Number of Days Treatment.	Total Expenditure.
<i>Quebec.</i>			
Batiscan	3	..	27 50
Bonaventure River	2	..	13 00
Carleton	4	..	22 00
Chicoutimi	1	3	3 60
Escoumains	2	..	37 00
Gaspé	1	7	11 00
Grand Pabos	4	..	28 75
Magdalen Islands	4	..	155 00
Maskinongé	1	..	11 00
Matane	6	4	92 96
Montmagny	1	..	49 50
Montreal: Alexandra Hospital	1	53	136 50
" General Hospital	281	1,814	2,843 00
" Notre Dame Hospital	124	901	1,371 50
" St. Paul's Hospital	1	42	66 00
" Catholic Sailors' Club	..	..	200 00
" Seamen's Institute	..	..	200 00
New Richmond	4	..	16 50
Paspébiac and New Carlisle	12	8	133 00
Percé	1	..	8 50
Port Daniel	4	..	10 90
Quebec: Hotel Dieu Hospital	12	75	112 50
" Jeffrey Hale Hospital	70	1,264	1,926 00
" Eye, Ear and Throat Hospital	1	44	66 00
" Seamen's Society	..	..	400 00
Rimouski	3	..	12 00
Sorel	55	134	782 00
St. Johns	51	..	600 00
Ste-Anne des Monts	2	..	14 00
Tadoussac	1	..	20 00
Three Rivers	10	4	353 60
	662	4,353	9,723 31
<i>British Columbia.</i>			
Chemainus	15	163	378 00
Ladysmith	1	28	41 00
Nanaimo	14	..	600 00
New Westminster	3	41	131 00
Ocean Falls	4	..	15 00
Prince Rupert	20	131	402 60
Union Bay	4	112	566 00
Vancouver	1	5	15 00
Vancouver: St. Paul's Hospital	112	2,360	3,945 00
" Strathcona Institute	..	..	200 00
Victoria: St. Joseph's Hospital	59	1,053	2,104 20
" Seamen's Institute	..	..	200 00
	233	3,893	8,597 80

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TABLE showing Expenditure for Treatment, Board, Supplies, etc.

	Nova Scotia.	New Brunswick.	Prince Edward Island.	Quebec.	British Columbia.	General Account.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Board in hospitals and private houses.	7,806 59	3,372 88	1,019 64	6,519 70	6,076 20	24 50
Medical and surgical treatment.	3,059 59	1,189 00	303 15	1,118 45	491 60	35 00
Medical officers' and keepers' salaries.	9,222 50	2,350 00	650 00	1,075 00	1,600 00	
Fuel.	779 30	113 86				
Water.	34 00					
Light.	16 11					
Supplies.	560 59	33 00				
Telephone service.	148 01	21 93				
Drugs, instruments, etc.	201 00					
Repairs and maintenance.	1,662 99	902 30				
Burials.	50 00	10 00		51 16	30 00	
Transportation.	120 65	4 00		153 00		602 05
Special nursing.	572 73	109 96	7 00	6 00		
Grants.	300 00	200 00		800 00	400 00	
Medical assistance.	175 00					
Express and freight.	1 50					6 89
Printing and stationery.						307 88
	24,710 56	8,306 93	1,979 79	9,723 31	8,597 80	976 32

TABLE showing Amount of Salaries paid to the Medical Officers and Keepers during the Fiscal Year 1913-14.

Nova Scotia.	\$ cts.		\$ cts.
Advocate Harbour and Apple River—Medical officer.	262 50	Windsor—Medical officer.	120 00
Annapolis Royal—Medical officer.	160 00	Yarmouth—Medical officer.	400 00
Arichat—Medical officer.	300 00		9,222 50
Barrington—Medical officer.	300 00	<i>New Brunswick.</i>	
Barton—Medical officer.	250 00	Bathurst—Medical officer.	150 00
Bear River—Medical officer.	150 00	Campbellton—Medical officer.	350 00
Bridgewater—Medical officer.	200 00	Cape Tormentine—Medical officer.	150 00
Canso—Medical officer.	375 00	Dalhousie—Medical officer.	250 00
Clark Harbour—Medical officer.	250 00	Douglastown—Medical officer.	450 00
Digby—Medical officer.	250 00	Keeper.	250 00
Keeper.	50 00	Hillsboro and Hopewell Cape—Medical officer.	150 00
Freeport, Westport and Tiverton—Medical officer.	400 00	Moncton—Medical officer.	200 00
Glace Bay—Medical officer.	150 00	Richibucto—Medical officer.	200 00
Liverpool—Medical officer.	100 00	Shediac—Medical officer.	200 00
Lockeport—Medical officer.	100 00		2,350 00
Louisburg—Medical officer.	250 00	<i>Prince Edward Island.</i>	
Keeper.	300 00	Murray Harbour—Medical officer.	100 00
Lunenburg—Medical officer.	500 00	Souris—Medical officer.	300 00
Keeper.	200 00	Summerside—Medical officer.	250 00
North Sydney—Medical officer.	750 00		650 00
Parrsboro—Medical officer.	300 00	<i>Quebec.</i>	
Pictou—Medical officer.	400 00	Paspebiac and New Carlsisle—Medical officer.	125 00
Watchman.	180 00	St. Johns—Medical officer.	600 00
Port Greville—Medical officer.	150 00	Three Rivers—Medical officer.	350 00
Port Latour—Medical officer.	125 00		1,075 00
Port Hawkesbury, Hastings, Mulgrave and Point Tupper—Medical officer.	300 00	<i>British Columbia.</i>	
Port Morien—Medical officer.	125 00	Nanaimo—Medical officer.	600 00
Pubnico—Medical officer.	250 00	Union Bay—Medical officer.	400 00
Sandy Cove—Medical officer.	300 00	Victoria—Medical officer.	600 00
Shelburne—Medical officer.	100 00		
St. Peter, L'Ardoise and River Bourgeois—Medical officer.	250 00	Total.	1,600 00
Sydney—Medical officer.	500 00		
Keeper.	300 00		
Weymouth—Medical officer.	125 00		

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TABLE showing expenditure for Physicians' Services and Travelling Expenses, Drugs and Board.

Port.	Physicians' Services.	Physicians' Travelling Expenses.	Drugs.	Board.	Total Expenditure
<i>Nova Scotia.</i>	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Advocate Harbour and Apple River . . .	84 00	11 00	49 50	13 02	157 52
Amherst.	117 00	16 50	3 00	34 00	170 50
Annapolis Royal	22 00		3 00	41 71	66 71
Arichat				78 33	78 33
Baddeck.	17 00	32 00	30 00		79 00
Barton.	7 00		7 00	442 49	456 49
Bear River.				16 72	16 72
Bridgetown.	9 00		13 00		22 00
Canning	1 00	9 00			10 00
Canso				60 71	60 71
Chester.	42 00	21 00	8 25	15 00	86 25
Cheticamp	226 00	28 00	134 75	25 00	413 75
Cheverie.	5 00	10 00	1 50		16 50
Church Point.	2 00	2 00	1 50		5 50
Clarks Harbour				20 38	20 38
Clementsport	13 00	60 00	4 50	3 00	80 50
Digby				4 30	4 30
Economy	12 00	24 00	8 75		44 75
Freeport, Westport and Tiverton.				407 05	407 05
Glace Bay				16 50	16 50
Halifax Board of Health.	128 44			20 50	151 01
Halifax Victoria General Hospital				3,631 50	3,631 50
Hantsport	35 00	8 00	16 75		59 75
Ingramport.	10 00	15 00	4 75		29 75
Lahave.	133 00	113 00	120 50		366 50
Isaac Harbour	2 00		1 00		3 00
Larry River	1 00		1 50		2 50
Liscomb	5 00	23 00	5 00	8 50	41 50
Little Bass River	10 00	13 00	3 75		26 75
Lockeport.				115 58	115 58
Louisburg.	5 00			278 60	283 60
Lunenburg.				310 00	310 00
Mahone Bay	35 00	47 00	12 25		94 25
Marble Mountain	2 00	4 00			6 00
Margaree	19 25	5 00		10 00	34 25
Margaretsville	39 00	160 00	35 00	40 50	274 50
Meteghan	12 00	24 00	3 75	17 50	57 25
Middleton.	26 00	130 00	12 85		168 85
Northport	8 00		4 00		12 00
North Sydney	210 00			289 00	499 00
Ostrea Lake	1 00	9 00			10 00
Pictou				116 00	116 00
Port Clyde	20 00	6 00	10 00		36 00
Port Dufferin.	22 00	36 00	10 75		68 75
Port Maitland	2 00		1 00		3 00
Ports Hawkesbury, Hastings, Mulgrave and Point Tupper				16 50	16 50
Port Wade.	15 00	105 00	8 00	17 50	145 50
Pubnico	12 00	6 00	4 30	88 50	110 80
Pugwash	8 00		8 00		16 00
River Hebert.	29 00	6 00	14 25		49 25
Salmon River.	24 00	64 00	16 00	39 29	144 29
Sandy Cove.				75 00	75 00
Sand Point.	2 00	5 00	1 00		8 00
Sheet Harbour	7 00	4 50	2 50	3 00	17 00
Shelburne				7 00	7 00
Springhill				378 00	378 00
Spry Bay	6 00	24 00	2 35		32 35
Sydney				989 20	989 20
Wallace	14 00		4 00		18 00
Walton	19 00	25 00	1 90	10 00	55 90
West Bay	5 00		1 00		6 00
Wedgeport.	2 00	4 00			6 00
Weymouth				31 85	31 85
Wolfville	11 00		1 00		12 00
Yarmouth.				134 79	134 79
	1,436 69	1,050 00	572 90	7,806 59	10,866 18

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TABLE showing expenditure for Physicians' Services and Travelling Expenses, Drugs and Board.—*Continued.*

Port.	Physicians' Services.	Physicians' Travelling Expenses.	Drugs.	Board.	Total Expenditure
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
<i>New Brunswick.</i>					
Alma.....	5 00	55 00	18 00		78 00
Baie Verte.....	3 00		2 55		5 55
Beaver Harbour.....	59 00		40 00	13 72	112 72
Buctouche.....	3 00		3 00		6 00
Campbellton.....				44 29	44 29
Caraquet.....	20 00		22 00		42 00
Dorchester.....	22 00	11 00	6 20	6 43	45 63
Douglastown.....				134 00	134 00
Grand Harbour.....	72 00	65 00	43 25	12 00	192 25
Harvey and Riverside.....	3 00	15 00	3 00		21 00
Jacquet River.....	1 00	9 00	1 00		11 00
Northhead.....	8 00	8 00	4 80	2 80	23 60
Sackville.....	11 00		2 75	20 00	33 75
Shippigan.....	124 50	8 50	214 50		347 50
St. Andrews.....	4 00		2 50		6 50
St. George.....	6 00	2 00	10 00		18 00
St. John General Hospital.....				2,997 00	2,997 00
St. John.....	12 00			12 00	24 00
St. Martin.....	53 00	224 00	10 45	130 64	418 09
St. Stephen.....	1 00				1 00
<i>Prince Edward Island.</i>					
	407 50	397 50	384 00	3,372 88	4,598 88
Alberton.....	12 00	0 50	30 50		43 00
Crapaud.....	7 00	7 00	5 00		19 00
Charlottetown Hospital.....	3 00			378 00	381 00
Prince Edward Island Hospital.....				511 50	511 50
Georgetown.....	20 00		8 50	10 50	39 00
Montague.....	28 00		11 75	2 00	41 75
New London.....	9 00		8 30		17 30
Rustico.....	18 00	90 00	7 65	60 00	175 65
Souris.....				36 64	36 64
Summerside.....				21 00	21 00
Tignish and Miminegash.....	15 00	10 00	11 95		36 95
<i>Quebec.</i>					
	112 00	107 50	83 65	1,019 64	1,322 79
Batiscan.....	18 00	3 00	6 50		27 50
Bonaventure River.....	3 00	3 00	7 00		13 00
Carleton.....	11 00		11 00		22 00
Chicoutimi.....				3 60	3 60
Escoumains.....	2 00	24 00	11 00		37 00
Gaspé.....				4 00	4 00
Grand Pabos.....	6 00	15 00	7 75		28 75
Magdalen Islands.....	23 00	123 00	9 00		155 00
Maskinonge.....	11 00				11 00
Matane.....	22 00	22 00	17 80	6 00	67 80
Montreal General Hospital.....				2,721 00	2,721 00
Notre Dame Hospital.....				1,351 50	1,351 50
Alexandra Hospital.....			1 00	132 50	133 50
St. Paul Hospital.....				63 00	63 00
New Richmond.....	5 00	5 00	6 50		16 50
Paspébiac.....				8 00	8 00
Perce.....	7 00		1 50		8 50
Port Daniel.....	4 00	1 00	5 90		10 90
Quebec Hotel Dieu.....				112 50	112 50
Jeffrey Hale Hospital.....				1,896 00	1,896 00
Quebec Eye and Ear Hospital.....				66 00	66 00
Rimouski.....	3 00	6 00	3 00		12 00
Sorel.....	468 70	13 00	148 30	152 00	782 00
Ste. Anne des Monts.....	4 00		10 00		14 00
St. Thomas Montmagny.....	27 00	12 00	10 50		49 50
Tadoussac.....	1 00	14 00	5 00		20 00
Three Rivers.....				3 60	3 60
	615 70	241 00	261 75	6,519 70	7,638 15

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TABLE showing expenditure for Physicians' Services and Travelling Expenses, Drugs and Board.—*Concluded.*

Port.	Physicians' Services.	Physicians' Travelling Expenses.	Drugs.	Board.	Total Expenditure
<i>British Columbia.</i>	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Chemainus	192 00		23 00	163 00	378 00
Ladysmith				41 00	41 00
New Westminster	90 00			41 00	131 00
Ocean Falls	15 00				15 00
Prince Rupert	147 00		14 60	241 00	402 60
Union Bay				166 00	166 00
Vancouver General Hospital	10 00			5 00	15 00
St. Paul's Hospital				3,945 00	3,945 00
Victoria—St. Joseph's Hospital				1,474 20	1,474 20
	454 00		37 60	6,076 20	6,567 80
GENERAL ACCOUNT.					
General account	35 00			24 50	59 50
Total	35 00			24 50	59 50

DETAILED EXPENDITURE FOR FUEL.

<i>Nova Scotia—</i>		
Louisburg Marine Hospital	\$ 196 00	
Lunenburg " "	210 50	
Sydney " "	222 00	
Yarmouth " "	150 80	
		\$ 779 30
<i>New Brunswick—</i>		
Douglastown Marine Hospital	\$ 113 86	113 86
Total expenditure		\$ 893 16

DETAILED EXPENDITURE FOR WATER SUPPLY.

<i>Nova Scotia—</i>		
Sydney Marine Hospital		34 00

DETAILED EXPENDITURE FOR TELEPHONE SERVICE.

<i>Nova Scotia—</i>		
Lunenburg Marine Hospital	\$ 27 00	
Sydney " "	85 97	
Yarmouth " "	35 04	
		148 01
<i>New Brunswick—</i>		
Douglastown Marine Hospital	21 93	21 93
Total expenditure		\$ 169 94

DETAILED EXPENDITURE FOR REPAIRS AND MAINTENANCE.

<i>Nova Scotia—</i>		
Louisburg Marine Hospital	\$ 14 98	
Lunenburg " "	118 33	
Sydney " "	1,303 62	
Yarmouth " "	226 06	
Total expenditure		\$ 1,662 99
<i>New Brunswick—</i>		
Douglastown Marine Hospital	\$ 902 30	902 30
Total expenditure		\$ 2,565 29

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GRANTS TO SEAMEN'S INSTITUTES.

<i>Nova Scotia—</i>	
Seamen's Society, Halifax, N.S.	\$ 200 00
North Sydney Institute	100 00
<i>New Brunswick—</i>	
Seamen's Mission Society, St. John	200 00
<i>Quebec—</i>	
Seamen's Institute, Montreal	200 00
Catholic Sailor's Club, Montreal	200 00
Seamen's Institute, Quebec	400 00
<i>British Columbia—</i>	
Seamen's Society (Victoria)	200 00
Strathcona Institute, Vancouver	200 00
Total expenditure	\$ 1,700 00

DETAILED EXPENDITURE FOR TRANSPORTATION.

<i>Nova Scotia—</i>	
Advocate Harbour	\$ 41 20
Barton	14 35
Halifax Board of Health	2 00
Halifax Victoria General Hospital	32 50
Margaretsville	6 00
Parrsboro	15 10
Point Tupper	3 70
River Hebert	25
Sheet Harbour	3 00
Springhill	2 55
	\$ 120 65
<i>New Brunswick—</i>	
St. Martins	4 00 4 00
<i>Quebec—</i>	
Gaspé	5 00
Montreal Alexandra Hospital	3 00
Montreal General Hospital	122 00
Montreal Notre Dame	20 00
Montreal St. Paul's Hospital	3 00
	\$ 163 00
Total expenditure	\$ 287 65

DETAILED EXPENDITURE FOR SPECIAL NURSING

<i>Nova Scotia—</i>	
Lockeport	\$ 8 57
Margaretsville	121 00
Pubnico	441 16
Sheet Harbour	2 00
	\$ 572 73
<i>New Brunswick—</i>	
St. Martin's	109 96 \$ 109 96
<i>Prince Edward Island—</i>	
Souris	\$ 7 00 7 00
<i>Quebec—</i>	
Gaspé	2 00
Matane	4 00 6 00
Total expenditure	\$ 696 69

DETAILED EXPENDITURE FOR BURIALS.

<i>Nova Scotia—</i>	
Sydney	50 00 50 00
<i>New Brunswick—</i>	
St. John	10 00 10 00
<i>Quebec—</i>	
Matane	21 16
Quebec	30 00
	51 16
<i>British Columbia—</i>	
Victoria	30 00 30 00
Total expenditure	\$ 141 16

DETAILED EXPENDITURE FOR MEDICAL ASSISTANCE.

<i>Nova Scotia—</i>	
Freeport	15 00
Lahave	10 00
North Sydney	150 00
Total expenditure	\$ 175 00

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DETAILED EXPENDITURE FOR LIGHT.

<i>Nova Scotia—</i>		
Sydney.....	\$ 16 11	\$ 16 11

DETAILED EXPENDITURE FOR FURNITURE, BEDDING, AND OTHER SUPPLIES.

<i>Nova Scotia—</i>		
Louisburg Marine Hospital.....	\$ 182 31	
Lunenburg " ".....	9 80	
Sydney " ".....	318 45	
Yarmouth " ".....	50 03	
		\$ 560 59
<i>New Brunswick—</i>		
Douglastown Marine Hospital.....	33 00	33 00
Total.....		\$ 593 59

DETAILED EXPENDITURE FOR DRUGS, MEDICINES, ETC.

<i>Nova Scotia—</i>		
Sydney Marine Hospital.....	\$ 109 85	
Yarmouth " ".....	91 15	
Total.....		\$ 201 00

DETAILED EXPENDITURE FOR EXPRESS AND FREIGHT CHARGES.

<i>Nova Scotia—</i>		
Yarmouth.....	\$ 1 50	
General account.....	6 89	
Total.....		\$ 8 39

MISCELLANEOUS.

Printing and stationery.....	\$ 307 88	
Medical superintendent's travelling expenses.....	602 05	
Total.....		\$ 909 93

TABULAR STATEMENT showing Diseases for which Seamen received Treatment during 1913-14.

GENERAL DISEASES, 742.			
Measles.....	15	Gonorrhea.....	117
Scarlet fever.....	4	Rheumatism.....	213
Diphtheria.....	3	Gout.....	2
Influenza.....	86	Scurvy.....	3
Enteric fever.....	59	Anaemia.....	12
Choleraic diarrhoea.....	4	Diabetes Mellitus.....	4
Dysentery.....	20	Effects of heat.....	1
Beriberi.....	4	Effects of cold.....	4
Malarial fever.....	22	Effects of foreign bodies.....	13
Erysipelas.....	10	General debility.....	25
Septicemia.....	9	Congenital malformation.....	1
Tubercle.....	3	New growths malignant.....	2
Syphilis.....	83	New growths non-malignant.....	3
Mumps.....	3	Purpura.....	2
Scabies.....	9	Cyst.....	7
Taenia.....	2	Hemophilia.....	2
Alcoholism.....	5	Total.....	742

LOCAL DISEASES, 1,774.

Diseases of the nervous system—

1. Of the nerves, 10—	
Neuritis.....	8
Multiple neuritis.....	2
2. Of the spinal cord and membranes, 6—	
Inflammation.....	1
Degeneration of lateral column ..	1
Locomotor ataxia.....	4
3. Of the brain and membranes, 3—	
Hemorrhage.....	2
Meningitis.....	1
4. Functional nervous diseases and other diseases of undetermined nature, 65—	
Apoplexy.....	2
Paralysis.....	2
Paresis.....	1
Hemiplegia.....	1
Epilepsy.....	9
Spasm.....	1
Vertigo.....	1
Headache.....	9
Neurasthenia.....	10
Neuralgia.....	27
Hysterics.....	2
5. Mental diseases, 1—	
Insanity.....	1

Diseases of the eye, 81—

Conjunctivitis.....	51
Keratitis.....	1
Ulcer cornea.....	10
Iritis.....	10
Blepharitis.....	2
Abscess of eyelid.....	1
Abscess of lacrymal sac.....	2
Optic neuritis.....	1
Amblyopia.....	1
Squint.....	2

Diseases of the ear, 33—

Inflammation of the external meatus.....	2
Cerumen.....	2
Otitis media.....	25
Axillary abscess.....	4

Diseases of the Nose, 10—

Inflammation of septum.....	1
Necrosis.....	2
Inflammation of sinuses.....	5
Inflammation of naso-pharynx.....	2

Diseases of the circulatory system, 58—

Endocarditis.....	6
Pericarditis.....	2
Valvular diseases.....	25
Aneurism.....	1
Angina pectoris.....	5
Syncope.....	1
Arteritis.....	5
Thrombosis.....	1
Phlebitis.....	2
Varix.....	10

Diseases of the respiratory system, 335—

Laryngitis.....	23
Rhinitis.....	10
Bronchitis.....	189

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Diseases of the respiratory system—*Continued.*

Asthma	9
Congestion of lungs	11
Hemorrhage of lungs	6
Pneumonia	37
Broncho-pneumonia	2
Abscess of lungs	2
Phthisitis	16
Pleurisy	29
Oedema of lungs	1

Diseases of the digestive system, 561—

Inflammation of the lips	2
Stomatitis	11
Dental caries	17
Toothache	54
Alveolar abscess	7
Pharyngitis	12
Gastritis	59
Tonsillitis	63
Post pharyngeal abscess	1
Ulcer of stomach	3
Hemorrhage of stomach	3
Cancer of stomach	3
Indigestion	23
Gastralgia	11
Enteritis	49
Typhlitis	2
Appendicitis	25
Colitis	5
Duodenitis	2
Intestinal obstruction	4
Constipation	21
Diarrhoea	19
Fistula in ano	4
Ulcer of rectum	2
Hemorrhoids	27
Hedatitis	5
Jaundice	3
Abscess of liver	1
Cancer of liver	1
Calculi of liver	2
Biliary of colic	5
Hernia	37
Peritonitis	6
Dyspepsia	61
Dropsy	1

Diseases of the lymphatic glands, 31—

Adenitis	31
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Diseases of the urinary system, 154—

Nephritis	19
Bright's disease	8
Calculi of kidneys	2
Haematuria	5
Alduminaria	3
Lithuria	1
Pyelitis	2
Cystitis	29
Renal colic	2
Urethritis	7
Stricture	7
Prostatitis	1
Phimosis	11
Paraphimosis	1
Epididymitis	3
Chancroids	20
Orchitis	17
Varicocele	11
Hydrocele	5

Diseases of the organs of locomotion, 116—

Osteitis.....	5
Periostitis.....	2
Caries.....	3
Bursitis.....	22
Synovitis.....	12
Hygroma.....	1
Myalgia.....	9
Lumbago.....	59
Sciatica.....	13

Diseases of the connective tissues, 139—

Cellulitis.....	61
Abscess.....	75
Gangrene.....	2
Oedema.....	1

Diseases of the skin, 171—

Erythema.....	2
Urticaria.....	5
Eczema.....	29
Impetigo.....	4
Pruritis.....	2
Sycosis.....	2
Herpes.....	13
Dermatitis.....	1
Acne.....	1
Seborrhea.....	1
Chilblain.....	2
Ulcers.....	37
Boils.....	35
Carbuncle.....	17
Whitlow.....	6
Prurigo.....	2
Ringworm.....	3
Frost bite.....	5
Psoriasis.....	4

INJURIES—729.

General injuries, 71—

Burns and scalds.....	64
Multiple injuries.....	3
Shock.....	2
Drowning.....	1
Strangulation.....	1

Local injuries, 658 —

Fracture of skull.....	1
Concussion of brain.....	1
Fracture of ribs.....	30
Wounds of head.....	27
Wounds of eyes.....	19
Wounds of ear.....	3
Wounds of face.....	17
Wounds of chest.....	17
Wounds of back.....	9
Wounds of upper extremities.....	149
Sprained wrist.....	20
Wounds of lower extremities.....	101
Sprained ankle.....	18
Fracture of Humerus.....	17
Fracture of radius.....	9
Fracture of ulna.....	5
Fracture of radius and ulna.....	11
Fracture of clavicle.....	9
Fracture of scapula.....	4
Fracture of finger bones.....	17
Fracture of femur.....	19
Fracture of tibia.....	13
Fracture of fibula.....	9
Fracture of tibia and fibula.....	11
Fracture of patella.....	5
Fracture of toes.....	15
Fracture of bones of nose.....	4
Fracture of lower maxillary.....	

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Local Injuries—*Concluded.*

Dislocation of shoulder.....	19
Dislocation of clavicle.....	9
Dislocation of wrist.....	3
Dislocation of hip.....	6
Dislocation of patella.....	1
Dislocation of knee.....	2
Dislocation of fingers.....	15
Malingering.....	5
Undiagnosed.....	5
Incomplete reports.....	21

Total number sick mariners treated during the year 1913-14.	3,245
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Number of cheques issued during the year 1913-14—

Nova Scotia.....	647
New Brunswick.....	124
Prince Edward Island.....	52
Quebec.....	107
British Columbia.....	66
General Account.....	19
	1,015

During the year 1913-14, the number of letters sent by this office was 1,722; memoranda, 445.

C. H. GODIN, M.D.

OTTAWA, April 29, 1914.

APPENDIX No. 8.
REPORT OF THE WRECK COMMISSIONER.

OTTAWA, May 1, 1914.

A. JOHNSTON, Esq.,
Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit my annual report of investigations and inquiries held during the fiscal year 1913-14, into the causes of wrecks and casualties, as well as statements of wrecks and casualties reported as having occurred to British, Canadian, and foreign vessels in Canadian waters, and to Canadian vessels in other waters, from January 1, 1913, to December 31, 1913, and of those reported as having occurred in inland waters during the same period.

Captain John D. Macpherson was appointed during the year to the position of wreck commissioner for British Columbia, left vacant by the death of Captain James Gaudin.

Formal investigations during the year.. . . .	24
Preliminary inquiries during the year.. . . .	7
Departmental inquiries during the year.. . . .	2
Total.. . . .	33

I am, sir,

Your obedient servant,

H. St. G. LINDSAY,
Dominion Wreck Commissioner.

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STATEMENT of Investigations held in Canada into Wrecks and Casualties which occurred to Canadian, British and Foreign Vessels in Canadian Waters during the fiscal year 1913-14.

Name of Ship.	Registered Port and No.	Remarks.
"Actic" (Lower Traverse Lightship).	Ottawa, 116,992.....	On May 23, collided with Clamb in St. Louise basin, Quebec. Departmental investigation was held at Quebec, May 30, by Commander Lindsay. <i>Finding.</i> —Engines moved ahead instead of astern. Engineer cautioned to be more careful in future.
"Actic" (Lower Traverse Lightship).	Ottawa, 116,992.....	On October 3, broke away from her moorings. Departmental investigation was held at Lower Traverse on October 29, by Commander Lindsay. <i>Finding.</i> —No one to blame. Anchor chains broke in heavy gale.
"Acadian," SS.....	Glasgow, 124,258.....	On November 8, stranded near Sulphur island, lake Huron. Formal investigation was held at Toronto on January 39, by Commander Lindsay. <i>Finding.</i> —Stranding caused by error of judgment on part of master, who is severely censured; but whose certificate is not dealt with on account of his conduct <i>re</i> salving and refloating his vessel.
"Bendu," SS., collided with tug "Canso."	Liverpool, 123,995.....	On July 4, collided with tug <i>Canso</i> in Restigouche river, N.B. Preliminary inquiry was held at Montreal on September 12, by Commander Lindsay. <i>Finding.</i> —Accident due to error of judgment on part of master of tug <i>Canso</i> , in miscalculating space for turning his vessel.
"Bridgeport," SS.....	London, 135,126.....	On November 1, left Sydney, C.B., for Montreal, Que., with cargo of coal, and has not since been heard of. Formal investigation opened at Sydney, C.B., March 26, by Commander Lindsay. Investigation not yet completed.
"Chilter Range," SS.....	Hartlepool, 132,811.....	On May 1, struck iceberg in mid-Atlantic. Formal investigation opened at Montreal on May 14, by Commander Lindsay, but found unnecessary after evidence of master was taken.
"Canada," SS.....	Trieste, Austria.....	On May 30, stranded at St. Antoine range lights, St. Lawrence river. Preliminary inquiry was held at Montreal on August 20, by Captain Riley. <i>Finding.</i> —No one to blame, formal investigation unnecessary.
"Canso," tug, collided with "Bendu," SS.	Yarmouth, N.S., 126,803	See under <i>Bendu</i> .
"Crown of Cordova," SS., collided with "Lady of Gaspe."	Glasgow, G.B., 112,809..	On July 28, collided with <i>Lady of Gaspe</i> at Cap de la Madeleine, St. Lawrence river. Formal investigation was held at Quebec on August 7, 8, 12, 13 and 14, before Commander Lindsay. <i>Finding.</i> — <i>Lady of Gaspe</i> alone to blame, master of <i>Lady of Gaspe</i> severely censured, and her second officer's certificate cancelled on account of his cowardly conduct in seeking self-preservation at time of collision. Master's certificate not dealt with.
"Cobequid," SS.....	London, 98,866.....	On January 13, on Trinity ledge, bay of Fundy. Stranded and was subsequently lost. Formal investigation held at Halifax, February 19 and 20, before Commander Lindsay. <i>Finding.</i> —Accident due to error of judgment on part of master, who is severely censured, but whose certificate is not dealt with on account of the very efficient manner in which everything was carried out on board for safety of passengers and crew.

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STATEMENT of Investigations held in Canada into Wrecks and Casualties which occurred to Canadian, British and Foreign Vessels in Canadian Waters during the fiscal year 1913-14.—*Continued.*

Name of Ship	Registered Port and No.	Remarks.
"City of Sydney," SS.....	Montreal, 115,274.....	On March 17, stranded on Shag rock, N.S. Formal investigation was held at Halifax on March 23 and 24 before Commander Lindsay. <i>Finding.</i> —Error of judgment on part of master, who is censured.
"Freia," sailing vessel	(Norwegian).....	On May 30, stranded and lost near Sunday point, N.S. Formal investigation held at Halifax on June 5, before Commander Lindsay. <i>Finding.</i> —No one to blame. Strong gale cause of accident.
"Fairmount," SS., collided with "Kenora," SS.	Montreal, 112,276.....	On July 12, collided in Montreal harbour. Formal investigation held at Montreal, August 28 and September 4, before Commander Lindsay. <i>Finding.</i> — <i>Kenora</i> alone to blame. Accident due to mistake of engineer in charge of <i>Kenora</i> in putting engines full speed ahead when master's orders were full speed astern. Both masters exonerated.
"Gerald Turnbull," SS.....	Cardiff, G.B., 132,876...	On May 19, stranded on Gannet dry ledge, N.S. Formal investigation held at Halifax on June 6, before Commander Lindsay. <i>Finding.</i> —Accident due to overconfidence of master in mistaking lights. His certificate suspended for six months.
"Kenora," SS.	Glasgow, G.B., 124,235..	On May 5, stranded near Dorval, lake St. Louis. Formal investigation held at Montreal on June 13, before Commander Lindsay. <i>Finding.</i> —No one to blame, accident due to smoke obscuring range lights astern. See under <i>Fairmount</i> .
"Kenora," SS., collided with "Fairmount," SS.	Glasgow, G.B., 124,235..	See under <i>Crown of Cordova</i> .
"Lady of Gaspé," SS., collided with "Crown of Cordova," SS.	Quebec, 78,554....	See under <i>Crown of Cordova</i> .
"Lake Manitoba," SS.....	Liverpool, G.B., 113,497.	On July 29, stranded on Isle of Orleans, St. Lawrence river. Formal investigation held at Montreal on August 5, before Commander Lindsay. <i>Finding.</i> —Casualty due to negligence of pilot, who disregarded rules of road, and whose license was suspended for balance of season. Master and officers in charge exonerated from all blame.
"Mastodon," dredge collision "Princess Charlotte," SS.	Renfrew, N.B., 129,529..	On January 28, collided in Vancouver narrows, B.C. Formal investigation held at Vancouver, April 25, 1913, by Captain Robertson. <i>Finding.</i> —No one to blame. Collision due to force of flood tide sending <i>Princess Charlotte</i> against <i>Mastodon's</i> bows.
"Majestic," SS.....	Collingwood, Ont., 100,950.	On June 4, stranded in lake St. Louis. Formal investigation held at Montreal on June 17 and 24, before Commander Lindsay. <i>Finding.</i> —Master was not justified in accepting two-blast signal from tug <i>St. Louis</i> , and was censured and warned to be more careful in future when navigating in narrow waters.
"Maia," SS.	German.....	On June 8, struck on Seal island, N.S. Formal investigation held at Halifax on July 9, before Commander Lindsay. <i>Finding.</i> —Master to blame for not having taken into consideration state and set of tide when setting his course, and not verifying his position by using lead. Certificate not dealt with, as court had no jurisdiction over same; but evidence and finding referred to German Government for action.

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STATEMENT of Investigations held in Canada into Wrecks and Casualties which occurred to Canadian, British and Foreign Vessels in Canadian Waters during the fiscal year 1913-14.—*Continued.*

Name of Ship.	Registered Port and No.	Remarks.
"Megantic," SS.....	Liverpool, G.B., 127,981.	On May 27, stranded near Verchères, St. Lawrence river. Preliminary inquiry held at Montreal on June 23, before Captain Riley. <i>Finding.</i> —No one to blame. Formal investigation not found necessary.
"Mikado," SS., collision with launch.	Halifax, N.S., 111,426...	On June 7, collided in Halifax harbour with a motor launch, and one person drowned from launch. Formal investigation at Halifax on July 9, before Commander Lindsay. <i>Finding.</i> —Master exonerated from blame. Casualty caused by person in charge of motor launch not paying attention as to which direction his boat was going after she left the breakwater.
"Mount Temple," SS.....	Liverpool, G.B., 113,496.	On Sept. 24, grounded in Montreal harbour. Formal investigation held at Montreal on October 1 and 8, before Commander Lindsay. <i>Finding.</i> —Stranding entirely due to error of judgment on part of pilot, who is severely censured and condemned to pay his own personal expenses.
"Princess Charlotte," SS., collision "Mastodon" Dredge.	Victoria, B.C., 126,236..	<i>See under Mastodon.</i>
"Point Hope," SS., collision, "Despatch," American SS.	.....	On Oct. 25, collided near Victoria inner harbour. Formal investigation held at Victoria, B.C., on December 3, before Captain Macpherson. <i>Finding.</i> —Collision entirely due to careless navigation of those in charge of <i>Despatch</i> . Copy of evidence and finding referred to United States Government for action.
"Prince George," SS....	Newcastle, G.B., 129,748	On December 20, stranded in First narrows, Vancouver, B.C. Formal investigation held at Victoria, B.C., before Captain Macpherson on January 22. <i>Finding.</i> —No one to blame. Mistook lights.
"Point Grey," tug, collided with scow.	Vancouver, B.C., 130,917	On December 9, collided in Vancouver harbour, B.C. Preliminary inquiry held at Vancouver, January 7 and 8, before Captain Macpherson. <i>Finding.</i> —Accident caused by scow attached to <i>James Tuft</i> —American vessel—being in improper place alongside of her, when loading under existing weather conditions.
"St. Laurent," SS., "Valleyfield," SS., collision.	Montreal, Que., 280,735.	On July 6, collided in Montreal harbour. Preliminary inquiry held at Montreal on July 28, by Captain Riley. <i>Finding.</i> —Accident due to lack of sufficient speed on <i>Valleyfield</i> to counteract the force of the current which struck her port bow after she crossed an ocean steamer's bow under reduced speed.
"Skookum," SS., "Castlegar" tug, collision.	Victoria, B.C., 134,023.. Vancouver, B.C., 130,556	On November 4, collided on Okanagan lake. Preliminary inquiry held at Penticton, B.C., on February 5, by Captain Macpherson. <i>Finding.</i> —Both vessels to blame. Formal investigation unnecessary.
"Tees," SS.....	Victoria, B.C., 95,929....	On May 3, stranded in First narrows, Alberni canal, B.C. Preliminary held at Vancouver on June 30, before Captain Eddie. <i>Finding.</i> —Accident due to excessive speed under circumstances. Master cautioned.
"Turret Chief," SS.....	Newcastle, G.B., 106,605	On November 8, stranded 6 miles east of Copper harbour, lake Superior, U.S.A. Formal investigation held at Kingston, Ont., before Commander Lindsay, on November 21. <i>Finding.</i> —Heavy gale cause of accident. Master severely censured for lack of seamanship displayed.

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STATEMENT of Investigations held in Canada into Wrecks and Casualties which occurred to Canadian, British and Foreign Vessels in Canadian Waters during the fiscal year 1913-14.—*Concluded.*

Name of Ship.	Registered Port and No.	Remarks.
"Valleyfield," SS. "St. Laurent" collision.	Montreal, Que., 69,595..	<i>See under St. Laurent.</i>
"Vadso," SS.....	Victoria, B.C., 124,077...	On February 3, on British Columbia coast. Formal investigation held at Vancouver, on February 20, before Captain Macpherson. <i>Finding.</i> —No one to blame. Loss of vessel due to her striking an uncharted danger in Portland inlet.
"Westport III," SS.....	Yarmouth, N.S., 116,208.	On April 13, took fire in bay of Fundy. Formal investigation held at Yarmouth on April 23, before Captain Murphy. <i>Finding.</i> —Fire caused by spontaneous combustion in mattresses in the cargo or by rats. No one to blame.
"Wabana," SS.....	Liverpool, G.B., 131,402.	On June 9, touched bottom near Fame point, Que. Formal investigation held at Quebec on June 18, before Commander Lindsay. <i>Finding.</i> —Accident due to disregard of master's orders and lack of judgment on the part of first officer, in allowing vessel to approach too close to land, and his (first officer's) certificate is suspended for six months.
"Whakatane," SS.....	Plymouth, G.B., 111,348	On September 13, collided with Gilmour's wharf, Indian cove, St. Lawrence river. Formal investigation held at Quebec on September 19, and at Montreal on September 24 and 25, before Commander Lindsay. <i>Finding.</i> —Both master and pilot to blame. Master severely reprimanded for lack of initiative pertaining to safe navigation of his vessel. Pilot's license suspended for balance of season.
"Wabana," SS., Schr., "Annie Roberts" collision.	Liverpool, G.B., 131,402. (Newfoundland).	On October 22, collided in Sydney harbour. Formal investigation held at Montreal on November 13 and 24 before Commander Lindsay. <i>Finding.</i> — <i>Annie Roberts</i> alone to blame. Persons in charge of her showed total ignorance of rules of the road.

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STATEMENT OF WRECKS AND CASUALTIES reported as having occurred to British, Canadian, and Foreign Vessels in Canadian Waters, and to Canadian Vessels in other Waters, from January 1 to December 31, 1913.

SEA-GOING VESSELS.

Date of Casualty.	Name of Ship and Off. No.	Age of Ship, years.	Registered Port.	How rigged. Iron or wood. Steam or Sail.	Register Tonnage.	Port sailed from Port bound to.	Place where casualty happened.	Particulars of casualty. Name of master.	Lives Lost.	Loss. Total or partial.
Jan. 10	Alice P. Turner... 201,918	46	Stonington, Conn.	Sch. Wood	166	Maitland, N.S. Boston, Mass.	Spencers Island, N.S.	Stranded. A. Ogilvie	...	Part, \$200.
Jan. 13	Abissinia.	12	Hamburg, Ger.	Sail 4 mts.	3,691	Hamburg Philadelphia.	Lat. 45° 14' N. Lon. 42° 34' W. No. Atlantic.	Rudder Stock Broken	...	Part, \$43,400.
Jan. 28	Alice P. Turner... 201,918	46	Stonington, Conn.	Sch. Steel	166	Parrsboro, N.S. Boston, Mass.	Black Rock, Bay of Fundy.	L. Moass. Stranded H. C. Rector.	...	Total, ship, \$1,000; Cargo, \$1,000.
Jan. 29	Albert D. Mills... 112,000	9	Parrsboro, N.S.	Sch. Wood	326	New York San Domingo.	Lat. 35° 17' N. Lon. 73° 41' W. Atlantic Ocean.	Damaged by heavy seas. F. Backhouse.	...	Part, \$175.
Mar. 15	Arkona.	12	Foreign	Sch. Wood	97	Gloucester, U.S.A. Liverpool, N.S.	Between Cape Sable and Little Hope, N.S.	Loss of sails N. Wharton.	...	Part, \$150.
May 25	Athlon... 103,495	18	Lunenburg, N.S.	Sch. Wood	99-05	Fortune, Nfld. Sydney, N.S.	Black Head, Nfld.	Stranded. Jas. Burton.	...	Total, \$2,500.
July 20	Atlantic... 122,143	7	Lunenburg, N.S.	Sch. Wood	67	Clark's Harbour	Barrington hr., N.S.	Stranded.	...	Part.
Aug. 2	Archie Crawell...	10	Lunenburg, N.S.	Sch. Wood	...	Sherbrook, N.S.	Pollock Rip, U.S.A. No. Atlantic.	Collided with "Enos Goule."	...	Part.
Aug. 28	Arthur J. Parker..	4	St. John, N.B.	Sch. Wood	119	Weymouth, N.S. Boston, Mass.	Boston harbour.	Stranded. W. H. Smith.	...	No loss.
Sept. 9	Agnes G. Donahue	10	Lunenburg, N.S.	Sch. Wood	99	Annapolis, N.S. St. John, N.B.	Point Prim, N.S.	Wrecked. Wm. Kaiser.	...	Total.
Oct. 6	Ada Mildred. 107,961	13	Paspebiac, P.Q.	Sch. Wood	93	Grand River, P.Q. Halifax, N.S.	Indian Rocks, P.E.I.	Stranded J. F. Tauner.	...	Part, \$400.

STATEMENT OF WRECKS AND CASUALTIES reported as having occurred to British, Canadian, and Foreign Vessels in Canadian Waters, and to Canadian Vessels in other Waters from January 1 to December 31, 1913—Continued.

Date of Casualty.	Name of Ship and Off. No.	Age of Ship.	Registered Port.	How rigged. Iron or wood. Steam or Sail.	Register Tonnage.	Port sailed from Port bound to.	Place where casualty happened.	Particulars of casualty. Name of master.	Lives lost.	Loss. Total or partial.
Oct. 16	Annie M. Parker.. 111,517	21	Bridgetown, B'dos	Sch.....	597	Canabeese, Fla..... St. John, N.B.	Lat. 38° 56' Lon. 72° 15' No. Atlantic, Cumberland bay, N.B.	Engine house and sails carried away. A. E. Rafuse. Stranded..... W. F. Copp.	.....	Part, ship, \$1,200; cargo, \$600.
Nov. 1	Athol..... 100,107	22	Parrsboro, N.S.....	Sch.....	70	St. John, N.B..... Alma, N.B.	.....	.....	.....	Total, ship, \$500; cargo, \$1,300.
Nov. 2	Albert A. Young. 130,740	2	Lunenburg, N.S.....	Sch.....	92	Mahone Bay, N.S..... Cardigan, Bay, P.E.I.	Port Hastings, N.S.....	Collided with "St. Leonard." W. Sarty.	.....	Part, \$3,500.
Jan. 16	B. B. Hardwich... 100,018	16	Annapolis, N.S.....	Sch.....	123	Boston, Mass..... Weymouth, N.S.	Coast of Maine, U.S.A.	Stranded..... Oliver Comeau.	.....	Part.
Feb. 8	Boston..... 98,585	13	Yarmouth, N.S.....	Steam.....	734	Yarmouth, N.S..... Boston, Mass.	Atlantic ocean.....	Damaged by heavy seas. A. Simson.	.....	Part.
Feb. 25	Bartholdi..... 100,004	22	Annapolis, N.S.....	Steel.....	299	Mobile, Ala..... San Pedro de Macoris.	35 miles N.W. of Lat. 25° 5' N. Lon. 83° 17' W. Gulf of Mexico	Damaged by heavy seas. H. W. Hamnett.	.....	Part.
Mar. 7	Bessie Dollar..... 121,272	6	Victoria, B.C.....	4 mts.	2,747	Manila..... San Pedro, Cal.	Lat. 41° 34' N..... Lon. 139° 54' E. Japan Sea.	Damaged by heavy seas. John Graham.	.....	Part.
Mar. 22	Basile..... 111,900	7	Weymouth, N.S.....	Sch.....	158	Condives..... Turks Island.	Squidwocket, U.S.A.	Stranded.....	.....	Part.
Mar. 22	Bartholdi..... 100,004	22	Annapolis, N.S.....	Sch.....	299	Mobile, Ala..... San Pedro de Macoris.	Lat. 28° N..... Lon. 76° W. No. Atlantic.	Water logged and abandoned. H. W. Hamnett.	.....	Total.
May 30	Beatrice L. Corkum 107,130	14	Halifax, N.S.....	Sail.....	.....	Halifax, N.S..... Vineyard Haven.	Clark harbour, N.S.	Stranded..... E. Anderson.	.....	Part, \$2,000.
July 4	Bendu..... 123,995	7	Liverpool, G.B.....	Wood..... Sail.....	2,821	Campbellton, N.B..... Pointe LaGarde...	Oak Point, Restigou- che river.	Collided with 'Canso' R. H. Jones.		Part.

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July 21	Boetic. 127,687	4	St. John's Nfld.	Schr.	464 Sydney Churchill	Point Riche Light, Nfld.	Stranded. E. Falk.	Part.
Aug. 24	Barcelona.	17	Hamburg, Ger.	Str.	3,357 Hamburg Montreal	Below Long Point, St. Lawrence River	Stranded. M. Von Sohren.	Part.
Oct. 5	Bjorvin.	22	Norwegian.	Schr.	1,785 Pugwash, N.S. Dublin, C.B.	Wood island, North- umberland str.	Stranded. S. O. Sorensen.	Part, ship, \$200,000 ; cargo, \$4,500.
Nov. 1	Bridgeport. 135,126	1	London, G. B.	Steel	3,380 Sydney Montreal	Lost outside of Syd- ney, N.S. presun- ably. J. Olsen.	45	Total, \$72,400.
Dec. 8	Bravo. 103,497	18	Lunenburg, N. S.	Schr.	147 North Sydney, N.S. Shelburne, N.S.	Louisburg, N.S.	Stranded. H. N. Smith.	Part.
Dec. 9	Bessie. 100,545	17	Digby, N. S.	Schr.	88 Boston, Mass. Plympton, N.S.	Boston harbour.	Stranded. Thos. Adams.	Part, \$5,000.
Dec. 9	Benefit. 107,566	17	Parrsboro, N. S.	Schr.	229 Kingsport, N.S. Havana, Cuba.	Lat. 38° 16' N. Lon. 67° 52' W.	Foundered. J. T. Salter.	Total, ship, \$6,000 ; cargo, \$5,000.
Jan. 7	Cheslakee. 130,305	24	Vancouver, B.C.	Schr.	261 42 Vancouver, Powell river.	N. Atlantic. Van Anda harbour, B.C.	Foundered. C. Cockle.	7 Total.
Jan. 16	Cacouna. 87,993	29	Montreal.	Schr.	52 North Sydney, N.S. Halifax, N.S.	Halifax harbour.	Collided with "Scots- man."	Part, \$30.
April 13	Cascades. 112,243	11	Victoria, B.C.	Sloop.	81 Vancouver, B.C. Victoria, B.C.	Strait of Georgia, B.C.	Collided C. F. Hardt. S. Noel.	Part.
May 30	Canada.	15	Trieste, Austria.	Schr.	8,816 Montreal. Trieste.	Above St. Augustine St. Lawrence river.	Grounded. Capt. Cosuleek.	Part.
May 30	C. A. Goreham. 90,434	23	Barrington age, N.S.	Schr.	33 39 Wood Harbour, N.S. Fishing.	Seal island, N.S.	Stranded. F. Goreham.	Part.
June 10	Cruizer. 104,606	18	Liverpool	Schr.	24 Quebec. Escoumans, P.Q.	Mouth of Saguenay river.	Stranded. Robt. Pugh.	Part.
July 9	Cacouna 87,993	28	Montreal.	Iron	931 Louisburg, N.S. Chatham, N.B.	Off Cape Traverse, P.E.I.	Collided with "Sarah A. Townsend."	Part.
July 13	Christella. 131,026	1	Vancouver, B.C.	Schr.	78 64 Vancouver	Vancouver harbour.	Burnt. J. L. Newnan. D. B. Scouler.	Total, \$15,000.
July 28	Crown of Cordova. 112,809	12	Glasgow	Schr.	2,239 London. Quebec.	Cap de la Madeleine, St. Lawrence river.	Collided with "Lady of Gaspe."	Part, heavy damage.
Aug. 8	Chebucto. 163,683	17	Halifax, N.S.	Steel	184 45 Halifax. Halifax.	Halifax harbour	Stranded. M. Campbell. John Hare.	Part, \$800

STATEMENT OF WRECKS AND CASUALTIES reported as having occurred to British, Canadian and Foreign Vessels in Canadian Waters and to Canadian Vessels in other Waters, from January 1 to December 31, 1913—Continued.

Date of Casualty.	Name of Ship and Off. No.	Age of Ship, years.	Registered Port.	How rigged. Iron or wood. Steam or Sail.	Register Tonnage.	Port sailed from. Port bound to.	Place where casualty happened.	Particulars of casualty. Name of master.	Lives Lost.	Loss. Total or partial.
Aug. 23	Canada 114,146	21	Quebec.	Iron	448	.....	New Carlisle, N.B.	Stranded.	.....	Part.
Sept. 13	Cearense. 99,302	22	Liverpool.	Schr.	1,790	Philadelphia. Port Nelson.	Estuary, Nelson river	Stranded A. W. Howard.	.....	Total, \$130,000.
Nov. 4	Carrie, C. 125,989	22	Gloucester, U.S.A.	Steam	75	Gloucester. Fishing.	La Have banks, N.S.	Sprung a leak. S. McPhee.	.....	Part, \$300.
Nov. 20	Coronado. 77,461	39	.....	Wood Sail	970	Vancouver, B.C. Vancouver, B.C.	Gulf of Georgia.	Foundered W. Sanderson.	.....	Total, \$22,000.
Dec. 24	Cheslie. 103,726	17	Parrsboro, N.S.	Schr.	295	Kingsport, N.S. Havana, Cuba.	Lat. 38° 18' N Lon. 67° 52' W.	Foundered. J. T. Salter.	.....	Total, ship, \$2,000 ; cargo, \$2,000.
Oct. 25	Despatch. 157,556	14	.....	Wood Sail	539	Seattle, Wash. Victoria, B.C.	N. Atlantic. Victoria inner harbour.	Collided with tug, "Point Hope." H. B. McKay.	.....	Part, \$310.
Nov. 12	Diana. 157,687	10	Gloucester, U.S.A.	Schr.	89	Gloucester. Fishing.	Shag harbour, N.S.	Struck sunken rock. L. Parsons.	.....	Total, \$10,000.
Jan. 9	Evelyn. 118,833	6	West Hartlepool, G.B.	Wood Sail	2,379	Nordenham, Ger Savannah, Georgia	Louisburg, N.S.	Foundered. G. Hugginbotham.	.....	Total.
Jan. 19	Elsie Porter. 130,819	1	Lunenburg, N.S.	Steam	99	Demerara, W.I. Demerara, W.I.	Lat. 13° N Lon. 61° W.	Sprung a leak. I. Eisenhauer.	.....	Part.
Feb. 9	Evolution. 94,855	24	Bridgetown, Bdos.	Schr.	173	Liverpool, N.S. Portsmouth, N.S.	Atlantic ocean. 45 miles S.E. of Seal island, N.S.	Loss of rigging and leaking. J. E. Rafuse.	.....	Part, \$400.
Feb. 9	Evangeline. 130,598	1	Halifax, N.S.	Wood Sail	2,442	Halifax, N.S. Keywest.	Christobel.	Collided. W. Ellis.	.....	Part, \$2,500.
Feb. 19	Earl Grey. 116,904	7	Parrsboro, N.S.	Schr.	379	Georgetown.	Atlantic ocean.	Sprung a leak. A. H. Zinch.		Part, \$2,000.

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May 15	Earl Grey 116,904	1	Parrsboro, N.S.	Schr. Wood Sail	379	Mobile, Ala. Demerara, W.I.	Lat. 23° 29' N. Lon. 81° 59' W. N. Atlantic. Portsn. onth hr	Damaged by heavy sea. A. H. Zinck. Stranded. J. E. Rafuse.	Part.
April 18	Evolution 94,855	25	Bridgetown, Bdos.	Schr. Wood Sail	173	Portsmouth, N.H. Liverpool, N.S.			Total, \$2,000.
May 14	Eva 96,991	22	Vancouver, B.C.	F. & A. Wood Steam	24	Vancouver Eburne.	Fraser river	Stranded. Alex. McRae.	
Aug. 24	Etoile 77,874	33	Quebec	Iron & wood Steam	316	Quebec Cape St. Ignace.	Cape St. Ignace, St. Lawrence river.	Stranded. F. Boisvert.	Part, \$100.
Aug. 27	Eskasoni 112,672	17	St. John, N.B.	Schr. Steel	1,682	Baltimore New Orleans.	New Orleans	Main mast bent when loading.	Part.
Sept. 8	E. B. No. 1 126,437		Toronto, Ont.	Dredge Wood Sail	139	Murray Harbour, P.E.I. Rustico, P.E.I.	Six miles from Rustico.	E. W. Hickey. Stranded. H. McMillan.	Total, \$25,000.
Oct. 19	E. Mayfield 103,739	15	Parrsboro, N.S.	Schr. Wood Sail	75	Annapolis, N.S. St. John, N.B.	Annapolis river	Foundered B. Merriam.	Part, ship, \$500; cargo, \$500.
Oct. 21	Emma 111,493	13	Quebec	Schr. Sail	66		Crane island, St. Lawrence river.	Collided with Sch. "Lizzie Lindsay," and sank.	Total.
Oct. 31	Estelle 80,748	35	Quebec	Schr. Wood Sail	80	Tadousac, P.Q. Quebec.	Pilgrims island, St. Lawrence river.	Foundered X. Gagne.	Total, ship, \$800; cargo, \$1,000.
Jan. 5	Florence E. Getson 130,830	1	Lunenburg, N.S.	Schr. Wood Sail	99-45	Phillipsburg Lunenburg, N.S.	Near Dog island, Caribbean sea.	Foundered H. Richard.	Total, ship, \$10,000; cargo, \$300.
Jan. 25	Florence May 122,249	12	Digby, N.S.	Schr. Wood Sail	13-63	Tiverton, N.S. Digby, N.S.	Digby Gut, N.S.	Stranded. J. Hamilton.	Part.
April 23	Frances A. Rice 94,821	24	Weymouth, N.S.	Schr. Wood Sail	122	Meteghan, N.S. Boston, Mass.	Sanders Ledge, Nahant, Mass.	Stranded. C. E. Cleveland.	
May 31	Freia	40	Norwegian	Iron Sail	1,593	Barbadoes Bahia Blanca.	Cape Fourchu, N.S.	Stranded. G. Olsen.	Total, \$25,000.
May —	Florence 88,309	28	Quebec	Tug Wood Steam	2,985	Escoumains, P.Q. New York.	Richelieu river, St. Lawrence river.	Stranded. I. E. Perron.	Slight damage.
June 26	Felix	7	Norwegian	Schr. Steel	1,123	Quebec-Sydney	East of West pt., Orleans island, St. Lawrence river.	Stranded. A. Koenig.	Slight damage.
Oct. 15	Falmouth	16	Barrington, N.S.	Schr. Wood Sail	100	New York Halifax, N.S.	Lat. 40° 30' N. Lon. 63° 10' W. Atlantic ocean.	Loss of deck load and sails torn. E. H. Kirby.	Part, ship, \$100; cargo, \$1,300.

STATEMENT OF WRECKS AND CASUALTIES reported as having occurred to British, Canadian and Foreign Vessels in Canadian Waters and to Canadian Vessels in other Waters, from January 1 to December 31, 1913—Continued.

Date of Casualty.	Name of Ship and Off. No.	Age of Ship, years.	Registered Port.	How rigged. Iron or wood. Steam or Sail.	Register Tonnage.	Port sailed from Port bound to.	Place where casualty happened.	Particulars of casualty. Name of master.	Lives Lost.	Loss. Total or partial.
Nov. 1	Flora T. 90,737	4	Charlottetown, P.E.I.	Sch. Wood Sail	52	Pugwash, N.S., Charlottetown, P.E.I.	Canoe cove, P.E.I.	Foundered. B. Trenholm.	2	Total.
May	2 Glace Bay	1					Near Cape Race.	Stranded.		Total.
May	3 Geneva May 111,876	11	Yarmouth, N.S.	Sch. Wood Sail	72	Wood Harbour, N.S. Fishing.	Seal island, N.S.	Stranded.		Part.
May 17	George Pearl 116,723	9	St. John, N.B.	Sch. Wood Sail	118	Liscomb, N.S., New York.	Ten miles S.E. of Halifax.	Part of deck load carried away. John Nauffes.		Part.
May 19	Gerald Turnbull 132,876	66	Cardiff, G.B.	Sch. Steel Steam	1,967	Cardiff Grindstone isld., P.Q.	Gannet Dry Ledge, N. Atlantic.	Stranded. A. Willison.		Total.
June 7	Gog 107,840	12	Victoria, B.C.	Tow barge. Wood	132 1/4	Vancouver, B.C., Rainy river.	Howe sound, B.C.	Stranded.		Total.
June 27	Golden Rod 100,271	20	Windsor, N.S.	Bkte. Wood Sail	533	Pasagoula, U.S.A., St. Thomas, W.I.	Lat. 26° 29' N. Lon. 86° 42' W. Gulf of Mexico.	Part of deck load carried away.		Part.
Oct.	2 Gypsum Empress 100,731	21	Windsor, N.S.	Sch. Wood Sail	723	Pensacola, Fla., Las Palmas.	Lat. 33° 44' N. Lon. 74° 29' W. N. Atlantic.	Hull leaking. A. Knowlton.		No loss.
Oct.	4 Gestina	4	Carnarvon, G.B.	Sch. Wood Sail	98	Port Madoc, G.B., No. Sydney, N.S.	Lat. 45° 30' N. N. Atlantic.	Stranded. R. Pritchard.		Total.
Oct. 14	George Pearl 116,723	9	St. John, N.B.	Sch. Wood Sail	118		Off Sanitary head, Mass.	Loss of sails and leaking.		Part.
Oct. 14	Glenara 100,114	23	Parrsboro, N.S.	Sch. Wood Sail	72	St. John, N.B., Rockland, Me.	Dipper harbour, Bay of Fundy, N.B.	Stranded. Capt. Sabeau.		Total, \$200.

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Oct.	15	Grace Darling 111,674	12	Parrsboro, N.S.	Schr. Wood Sail	97	Noel, N.S. Hartford, Conn.	Spencers island, Bay of Fundy.	Stranded. F. Ogilvie.		Part, ship, \$500; cargo, \$260.
Dec.	25	Glenafon 100,003	25	Annapolis, N.S.	Schr. Wood Sail	344	Mobile, N.S. Havana.	Lon. 85° 27' E ... Lat. 28° 28' N. Gulf of Mexico.	Foundered. L. L. Eden.	.....	Total, \$760.
Oct.	16	Golden Rod 100,271	20	Windsor, N.S.	Bkte. Wood Sail	533	Sabine Pass. San Fernando, Tri.	Lat. 23° 31' W. Lon. 82° 19' W. Str. of Florida.	Part of rigging dam- aged. F. A. Jarvis.	.....	Part, \$1,500
Oct.	22	George Pearl 116,723	9	St. John, N.B.	Schr. Wood Sail	118	Liscomb, N.S. New York.	75 miles off High- land Light, Mass.	Part of cargo carried away. John Nauffes.	.....	Part, \$25
Nov.	3	Gypsum Emperor 100,279	31	Windsor, N.S.	Schr. Wood Sail	635	New York Halifax.	60 miles S. E. of Nantucket Lt. Atlantic ocean.	Foundered. Thos. Martin.	.....	Total, Ship, \$500. Cargo, \$500
Nov.	19	Grace Darling 122,103	7	Lunenburg, N.S.	Schr. Wood Sail	64	Charlottetown, P.E.I.	Charlottetown Har- bour.	Collided with bridge. A. A. Lautz.	.....	Part, \$200
Nov.	21	Georgian II 117,113	8	Vancouver, B.C.	Tow. Barge Wood	649	Vancouver, B.C. Prince Rupert, B.C.	Queen Charlotte Sound.	Stranded. Wm. Bradley.	.....	Total, \$15,000
Dec.	11	Grace Darling 111,574	12	Parrsboro, N.S.	Schr. Wood Sail	97	.....	Chatham, Mass.	Main mast bent. Capt. King.	.....	Part.
Dec.	24	G. R. Hughes 133,716	3	Vancouver, B.C.	Schr. Wood Gas	29	Vancouver, B.C. Fishing.	Hope island, B.C.	Wrecked P. Peterson.	.....	Total, Ship, \$14,000. Cargo, \$250
Jan.	6	Halifax 129,590	1	Halifax, N.S.	Steel Steam	268	Halifax Dartmouth, N.S.	Half way between Halifax and Dart- mouth.	Collided C. O. Ozen.	.....	Part, \$890
Feb.	2	Hilda R. 126,904	2	Halifax, N.S.	Schr. Wood Sail	99	Harbour Grace, Nfld.	Lat. 40° N. Lon. 42° W. No. Atlantic.	Sails split and part of rigging carried away. W. J. Rose	.....	Part, \$750
Feb.	2	Harry 100,119	20	Parrsboro, N.S.	Schr. Wood Sail	396	St. John, N.B. New York.	Atlantic ocean	Part of cargo jetti- soned in heavy sea. A. Goreham.	.....	Part.
Mar.	28	Herakles	1	Norwegian.	Schr. Steel Steam	2,724	Barry Docks. Sydney, N.S.	Louisburg harbour, N.S.	Bow grazed E. A. Buge.	.....	Part, \$1,000
April	12	Hugh John 111,416	13	Halifax, N.S.	Schr. Wood Sail	119	44 Bridgetown, Bdos. Halifax, N.S.	Lat. 30° 35' N. Lon. 63° 13' W. No. Atlantic.	Damaged in gale B. Scott.	.....	Part.
May	30	Harry 100,119	20	Parrsboro, N.S.	Schr. Wood Sail	396	Port Greville, N.S. New York.	Off Follock Rip Lightship, U.S.A.	Collided with Amer- ican vessel. Wm. Morrison.	.....	Part, \$500
July	7	Hesperian 124,266	5	Glasgow	Schr. Steel Steam	6,316	Glasgow Montreal.	Lat. 55° 0' N. Lon. 22° 30' W. No. Atlantic.	Crank shaft broken. W. S. Morin.	.....	Part.

STATEMENT OF WRECKS AND CASUALTIES reported as having occurred to British, Canadian, and Foreign Vessels in Canadian Waters, and to Canadian Vessels in other Waters, from January 1 to December 31, 1913.—*Continued.*

Date of Casualty.	Name of Ship and Official No.	Age of Ship, years.	Registered Port.	How Riggered. Iron or wood. Steam or sail.	Register Tonnage.	Port sailed from Port bound to.	Place where Casualty Happened.	Particulars of casualty. Name of master.	Lives Lost.	Loss. Total or partial.
July 14	Herakles.....	1	Norwegian.....	Schr.....	2,724	Sydney, N.S. New Westminster.	Sand Head, Fraser river.	Stranded. E. A. Bug.	.....	Slight damage
July 21	Halifax 95,099.....	33	Halifax, N.S.....	Steam F & A.....	1,078	Boston, Mass. Charlottetown, P.E.I.	Halifax harbour.....	Stranded. F. H. Hawes.	.....	No loss
Aug. 3	Hugh John 111,416.....	13	Halifax, N.S.....	Schr.....	119	Sherbrook, N.S. Boston, Mass.	Boston harbour.....	Collided with "Ellen and Mary". B. Scott.	.....	Part., \$3,200
July 12	Hazel Trahey 126,583.....	3	Parrsboro, N.S.....	Schr.....	145	Parrsboro, N.S. Barbadoes.	60 miles off Sambro, N.S.	Collided with "Ind- randi". H. C. Richard.	.....	Part., \$5,000
Aug. 14	Hesperian 124,366.....	5	Glasgow.....	Schr.....	6,317	Glasgow.....	Varennnes and Cape St. Michel, St. Lawrence river.	Stranded. W. S. Main.	.....	Slight damage
Aug. 28	Hugh John 111,416.....	13	Halifax, N.S.....	Steam Schr.....	119	Sherbrook, N.S. Boston, Mass.	Vineyard Haven, U.S.A.	Collided with "Bruce Hawkins". B. Scott.	.....	Part., \$300
Oct. 16	Harteney W 116,322.....	10	Parrsboro, N.S.....	Schr.....	271	Wolfville, N.S.	South Boston, Mass.	Stranded. W. E. Watson.	.....	Part.
Oct. 30	Himera 115,313.....	12	St. John, N.S.....	Schr.....	2,351	Swendborg, Ystad, Sweden.	6 miles E. of Ystad.	Stranded. G. B. Leonard.	.....	Part.
Nov. 16	Hilda R.....	3	Halifax, N.S.....	Schr.....	100	Grand Banks, Nfld. Harbour Grace, Nfld.	Lat. 38° 25' W Lon. 42½ N°.	Part of rigging and life boat carried away. W. Getman.	.....	Part., \$250
Jan. 13	Invictus 112,001.....	8	Annapolis, N.S.....	Schr.....	327	New York. Havana, Cuba.	Lat. 33° 15' N. Lon. 72° 10' W.	Damaged by heavy seas. J. H. Hill.	.....	Part., \$75
July 12	Indrandi 93,798.....	25	Glasgow.....	Schr.....	2,339	Glasgow Pugwash, N.S.....	No. atlantic. Lon. 63° 50' W.	Collided with "Hazel Trahey". J. H. Telfer.	.....	Part., \$200
Aug. 9	Irene 75,548.....	34	Halifax, N.S.....	Schr.....	64	St. Omer, P.Q. No. Sydney, N.S.	No. atlantic. Off Mount Carmel, P.E.I.	Stranded. Geo. T. Moulsten.		Total.

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Nov.	3	Ida M. Zinck.....				Lunenburg, N.S. No. Sydney, N.S. Georgetown, P.E.I. Liverpool, N.S.	Entrance to Sydney, Stranded. Last seen off White Head, N.S.		Part, \$180
Dec.	7	Iona W.....	11	Lunenburg, N.S.	Schr. Wood	77-98	.....	6	Total, \$5,000.
Jan.	26	Jean.....	7	Liverpool, N.S.	Schr. Sail	190	St. Johns, Nfld Pernambuca.	.....	Part.
Jan.	31	Jewell.....	37	Lunenburg, N.S.	Schr. Wood	52	Lunenburg, N.S. Halifax, N.S.	.....	Part., \$1,000.
Feb.	18	Justice H.....	1	Halifax, N.S.	Schr. Sail	.....	Halifax harbour. ....	.....	Total.
June	8	J. O. Gravel.....	4	Montreal, P.Q.	Tug. Wood	3-79	Montreal. ....	.....	Part.
July	16	Jennie C.....	23	St. John, N.B.	Schr. Steam	98	Windsor, N.S. ....	.....	Total, \$10,000.
Oct.	2	Janie F.....	11	Charlottetown, P.E.I.	Schr. Sail	46-35	Port Hastings, N.S. Souris, P.E.I.	.....	Cargo, \$1,600.
Oct.	14	James William ...	5	Pictou, N.S.	Schr. Iron	90	Digby, N.S. ....	.....	Part.
Oct.	20	Josephine.....	—	Quebec.....	Schr. Wood	355	Rimonski, P.Q. ....	.....	Total, \$3,000.
Nov.	19	J. G. Cox.....	8	Shelburne, N.S.	Schr. Sail	65-41	Halifax Bras d'Or Bay, N.B.	.....	Part. Ship, \$800.
Dec.	5	Juanita.....	12	Lunenburg, N.S.	Schr. Wood	99-93	Cadiz, Spain ...	.....	Cargo, \$200.
Oct.	6	King Josidee.....	5	Parrsboro, N.S.	Schr. Sail	147	Parrsboro, N.S. ....	.....	Part. Ship, \$350.
Feb.	2	Ludlow.....	8	St. John, N.B.	Schr. Wood	363	In East Ferry dock.	.....	Cargo, \$6,000.
April	4	Lord Dirly.....	8	Liverpool, G.B.	Schr. Steel	2,401	Seattle, Wash. ....	.....	No loss.
April	25	Lewis.....	9	Sydney, N.S.	Schr. Steam	99	Liverpool, N.S. ....	.....	Part. \$1,500.
July	13	Lucila.....	74	Chatham, N.B.	Schr. Wood	99	Five Islands, N.S. ...	.....	Part. \$400.
					Schr. Sail				Part. \$500.

STATEMENT of Wrecks and Casualties reported as having occurred to British, Canadian and Foreign Vessels in Canadian Waters, and to Canadian Vessels in other Waters, from January 1 to December 31, 1913.—*Continued.*

Date of Casualty.	Name of Ship and Off. No.	Age of Ship, years.	Registered Port.	How rigged Iron or Wood Steam or Sail.	Register Tonnage.	Port sailed from Port bound to	Place where casualty happened.	Particulars of casualty. Name of master.	Lives Lost.	Loss Total or partial.
July	— Lady Sybil 85,406	5	Magdalen Islands.	Schr. Steel	352	Pictou, N.S. Etang du Nord, Mag. islands.	S. W. Cape Magda- len islands.	Stranded. F. Ferguson.	.....	No loss.
July	28 Lady of Gaspe 78,564	36	Quebec.	Schr. Iron Steam	705 21	Montreal Quebec.	Half a mile above Cap de la Made- leine, St. Lawrence river.	Collided with "Crown of Cordova."	.....	Heavy loss.
July	29 Lake Manitoba 113,497	12	Liverpool, G.B.	Schr. Steel	6,276	Liverpool Montreal.	Island of Orleans, St. Lawrence river.	Stranded. G. V. Evans.	.....	Part. heavy loss.
Sept. 17	Leonard Parker 107,065	16	Bridgetown, Bdos.	Schr. Wood Sail	246	Gulf Port, Miss. Louisburg, N.S.	Cramp Keys, Fla . . .	Stranded. C. J. McNeil.	.....	Total, \$7,000.
Oct. 15	Levuka 100,519	20	Parrsboro, N.S.	Schr. Wood Sail	76	Parrsboro, N.S. Digby, N.S.	Spencers island, Bay of Fundy.	Stranded. F. Ogilvie.	.....	Part. Ship, \$500. Cargo, \$260.
Oct. 19	Lizzie Lindsay	28	Gaspe, P.Q.	Schr. Wood Sail	91	Quebec Mechins, P.Q.	Quebec harbour	Collided with "Emma." M. Chenal.	.....	Part. \$100.
Nov. 4	Laurel 116,203	10	Halifax, N.S.	Schr. Wood Sail	16	Glace Bay, N.S. Margaree, N.S.	Margaree harbour . . .	Stranded. P. Leblanc.	.....	Part. \$75.
Nov. 26	Ladysmith 112,324	11	Bridgetown, Bdos.	Schr. Wood Sail	506	Halifax, N.S. "	Vineyard Haven, U. S.A.	Collided with "Maud Palmer." R. Lohnes.	.....	Part. \$8,000.
Nov. 30	Laura C. 112,096	11	Bridgetown, Bdos.	Schr. Wood Sail	249	Bridgewater, N.S. Cienfuegos, Cuba.	Lahave, N.S.	Damaged by fire . . . .	.....	Part. \$2,000.
Dec. 23	Leconfield	2	Provisional re- gister.	Dredge Steel	.....	St. John Harbour, N. B.	St. John harbour, N.B.	Foundered S. Crawford.	.....	Total, \$124,000.
Jan 8	Muriel M. Richard 130,470	14	Lunenburg, N.S.	Schr. Wood Sail	97 '06	Phillipsburg Lunenburg, N.S.	Three miles west of Dog island, Carib- bean sea.	Foundered H. Richard.		Total. Ship, \$10,000. Cargo, \$350.

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May	8	Marmion 102,622	20	Glasgow	Schr. Wood Steam	98	Todd Inlet, B. C. Victoria, B.C.	Entrance to Victoria harbour.	Collided with "Ade- laide," Wm. Ludlow.	Trifling.
May	27	Megantic 127,981	4	Liverpool, G. B.	Schr. Steel Steam	9183	Montreal. Liverpool.	Point Mary St. Lawrence river	Touched lightly. R. F. David.	No damage.
June	7	Mikado 111,426	11	Halifax, N. S.	Wood Steam	2988	Halifax, N. S. Dartmouth, N.S.	Halifax harbour.	Collided with motor boat.	No damage.
June	7	Maia	7	Germany	Schr. Steel Steam	1635	Harvey, N.B. Manchester, G.B.	Seal Island, bay of Fundy.	J. H. Blakeney. O. Schacht.	Part., \$35,000.
July	3	Marmion 102,622	20	Glasgow	Schr. Iron Steam	98	Todd Inlet, B. C. Victoria, B.C.	Victoria harbour.	Collided with "Ade- laide," Wm. Ludlow.	Trifling.
July	6	Morning Star		Boston, Mass.	Schr. Wood Sail	85	Boston, Mass. Fishing.	Bauld Bar, Shel- burne, N.S.	Stranded.	Part., \$1,500.
Aug.	9	Miletus 90,823	16	Lunenburg, N. S.	Schr. Wood Sail	9591	North Sydney, N.S. Bathurst, N.B.	Cape Bear, Northum- berland steamer, P. E.I.	Stranded.	Total. Ship, \$1,500. Cargo, \$550.
Aug.	16	Margaret G. 112,323	11	Parrsboro, N. S.	Schr. Wood Sail	299		Off Havanna, Gulf of Mexico.	Strung a leak. R. H. Burgess.	Part. Ship, \$1,500. Cargo, \$1,000.
Aug.	28	Mildred H. Coch- ran. 183,754	39	St. John, N. B.	Schr. Wood Sail	245	St. Martins, N. B. Boston, Mass.	Boston harbour.	Stranded.	No damage.
Sept.	1	Montreal. 116,600	9	Montreal.	Steel Steam	2299-41	Montreal. Quebec.	Between Becancourt and Champlain.	Collided with "Quer- ida," F. X. Lafrance.	Part., \$150.
Sept.	24	Mount Temple 113,496	12	Liverpool, G. B.	Schr. Iron Steam	6601.43	Montreal London.	Montreal harbour.	Stranded.	Part.
Sept.	24	Mayflower. 126,137	4	Halifax, N. S.	Wood Steam	45-03	Halifax. Halifax, N.S.	Halifax harbour.	Burnt. C. Marshall.	Total. Ship, \$3,500. Cargo, \$500.
Oct.	3	M. Elvina L. 115,710	9	Quebec	Schr. Wood Sail	46	Murray Bay. Quebec.	St. Roch Traverse, St. Lawrence river	Collided with "Effie" Geo. Gagnon.	Part. Ship, \$300. Cargo, \$50.
Oct.	27	Mildred H. Coch- ran. 133,754	40	St. John, N. B.	Schr. Wood Sail	245	St. Martins, N. B. Salem, Mass.	Tynemouth Creek, N.B.	Stranded.	Part., \$200.
Nov.	10	Muirfield 124,338	6	West Hartlepool, G. B.	Schr. Steel Steam	1956.74	Savannah, U.S.A. Havre, France.	Lat. 40° 05' N., Lon. 58° 46' W., North Atlantic.	Fire in cotton cargo. E. G. Sturgeon.	Part. Cargo, \$30,000.
Nov.	15	Manchester Port. 113,130	10	Manchester, G. B.	Schr. Steel Steam	2662	Manchester. Halifax, N.S.	Off Point Lynus, Eng- land.	Collided with un- known vessel. C. H. Stott.	Part.

STATEMENT OF WRECKS AND CASUALTIES reported as having occurred to British, Canadian, and Foreign Vessels in Canadian Waters, and to Canadian Vessels in other Waters, from January 1 to December 31, 1913—*Continued.*

Dates of Casualty.	Name of Ship and Official No.	Age of Ship, years.	Registered Port.	How Rigged. Iron or wood, Steam or sail.	Register Tonnage.	Port sailed from. Port bound to.	Place where Casualty Happened.	Particulars of casualty. Name of Master.	Lives Lost.	Loss. Total or partial.
Dec. 24	Malwa 107,309	12	Quebec	Blkte Wood Sail	539	Port of Spain Port of Spain.	Lat. 23, Gulf of Mexico.	Foundered. Jas. Gould.	.....	Total. Ship, \$15,000. Cargo, \$10,000.
Oct. 26	Nule 122,311	6	Lunenburg, N.S.	Schr. Wood Sail	38-25	Halifax, N.S. La Have, N.S.	Currie Cove, West Dublin, N.S.	Sprung aleak and part of cargo des- troyed by fire. J. D. Wolfe.	.....	Part. Ship, \$100. Cargo, \$1,500.
Jan. 3	Oregon 112,106	9	Lunenburg, N.S.	Schr. Wood Sail	99	New York New York.	E.S.E. 55 miles of Cape Hatteras.	Damaged by heavy seas. Wm. Eisenham.	.....	Part., \$7,500.
Jan. 4	Oressa Belle 112,120	10	Great Britain	Schr. Wood Sail	95	Burgos, Nfld. Gloucester, Mass.	125 miles off Cape Sable.	Loss of sails and leaking. W. J. Tuck.	.....	Part., \$500.
Jan. 15	Oscar 103,908	16	Victoria, B.C.	Slp Wood	61	Victoria, B.C. Vancouver, B.C.	Nanaimo, B.C.	Burnt. A. McDonald.	.....	Total. Ship, \$8,000. Cargo, \$12,000.
May 9	Ophir 122,531	6	Vancouver, B.C.	Steam Schr. Wood	139	Vancouver, B.C. Canoes Pass, B.C.	Canoes Pass, B.C.	Burnt. J. S. Johanson.	6	Total.
Oct. 28	Otis Miller 103,268	17	Dorchester, N.B.	Steam Schr. Wood	98	Parrsboro, N.S. Port Greville, N.S.	Cape Sharp, N.S.	Stranded. W. B. Mahoney.	.....	Part., \$150.
Nov. 27	Otis Miller 103,268	17	Dorchester, N.B.	Schr. Wood	96	Port Greville, N.S. Boston, Mass.	Off Quacco, N.E., Bay of Fundy.	Sprung a leak. J. A. Haws.	.....	Part. Ship, \$300. Cargo, \$4,500.
Jan. —	Pearl Eveline 111,414	13	Lunenburg, N.S.	Schr. Wood Sail	9851	St. John, Nfld. Oporto, Portugal	Not known	Missing F. Pinel.	.....	Total. Ship, \$1,000. Cargo, \$4,750.
April 1	Princess Adelaide 126,948	3	Victoria, B.C.	Schr. Sail	1910	Victoria, B.C. Seattle, Wash.	N.E. 1/3 from Pt. Grey Lt. English bay.	Collided P. A. Hunter.	.....	Part.
April 13	Princess Sophia 130,620	1	Victoria, B.C.	Steam Schr. Steel	1465	Victoria, B.C. Juneau, Alaska.	Lynn Canal, Alaska.	Stranded C. Campbell.		Part., \$20,000.

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April 19	Peerless 111,712	12	Lunenburg, N.S.	Schr. Wood	69	Denerara, Barbadoes.	Carlisle bay, Edoes.	Collided with "Hild- ing," L. Hanell.	Part, \$70.
June 11	Percy C. 126,537	4	Liverpool, N.S.	Schr. Wood	99	Liverpool, N.S. New York.	Six miles off Cape Sable.	Strung a leak. J. Evans.	Part, \$1,200.
"	20 Pisa	17	Hamburg, Ger.	Schr. Steel	3,147-83	Hamburg Quebec.	Quebec.	Collided with dock wall.	Slight damage.
"	21 Protection	1	Victoria, B.C.	Tug Wood	49-96	Victoria, B.C. Brentwood.	Saanich Inlet, B.C.	Stranded. W. Hauer. S. Fraser.	Part.
July 10	Princess Royal 121,988	6	Victoria, B.C.	Steam Wood	981	Victoria. Victoria.	Entrance to 1st Nar- rows, Burrard inlet	Collided with boom of logs. D. Brown.	No damage.
Aug. 9	Parana, 112,113	10	Lunenburg, N.S.	Schr. Wood	9,933	New York Bridgetown, N.S.	Pollock Rip Shoal, U.S.A., N. Atlan- tic.	Stranded. W. M. Tupper.	Total, ship, \$3,000; cargo, \$1,515.
"	13 Prince George 129,748	31	Newcastle, G.B.	Schr. Steel	92	Seattle, Wash. Prince Rupert, B.C.	Arthur Passage, B.C.	Stranded. Dan. Donald.	Trifling.
"	30 Princess Charlotte, 126,236	4	Victoria, B.C.	Schr. Steel	1,999	Victoria, B.C. Vancouver, B.C.	Off Marrow Stone Pt., Puget sound	Collided with "Le- ona," T. O. Griffin.	Slight damage.
Sept. 4	Princess Maquina, 133,769	1	Victoria, B.C.	Schr. Steel	979	Victoria, B.C. Alaska.	Disenchantment bay.	Stranded. John McLeod.	Part.
"	25 Plunger 131,152	1	Vancouver, B.C.	Tug Wood	38-42	Vancouver, B.C. New Westminster.	New Westminster.	Collided with gas- oline launch.	Part.
"	25 Pisa	17	Hamburg, Ger.	Schr. Steel	3,147-83	Montreal. Rotterdam.	Batiscan, St. Law- rence river.	Grounded. J. R. Grauer. W. Hauer.	No damage.
Oct. 20	Percy C. 126,037	4	Liverpool, N.S.	Schr. Wood	99	Bridgewater. Boston.	70 miles east of Yatches island.	Lost part of deck cargo. Jos. Evans.	Part, cargo, \$400.
"	25 Point Hope 130,310	31	Victoria, B.C.	Slp. Wood	44-93	Victoria, B.C. Victoria, B.C.	Victoria harbour	Collided with "Des- patch," W. J. McDougall.	No damage.
"	29 Princess Patricia, 115,685	11	Victoria, B.C.	2 mts. Steel	535	Nanaimo, B.C. Vancouver, B.C.	Burrard inlet, B.C.	Stranded. J. N. P. Ritchie.	No damage.
Dec. 6	Premier	4	Gloucester, U.S.A.	Steam Wood	97	Gloucester, U.S.A. Lockport, N.S.	Near Lockport.	Stranded. W. T. Morrissey.	Part.
"	9 Point Grey			Tug Steel	14	Vancouver, B.C.	Burrard inlet, B.C.	Collided with un- known vessel. W. Bert.	Part.
"	12 Princess Royal 121,988	6	Victoria, B.C.	Steam	981	Victoria, B.C. Victoria, B.C.	Burrard inlet, B.C.	Stranded. D. Brown.	No damage.

STATEMENT OF WRECKS AND CASUALTIES reported as having occurred to British, Canadian, and Foreign Vessels in Canadian Waters, and to Canadian Vessels in other Waters, from January 1 to December 31, 1913—*Continued.*

Dates of Casualty.	Name of Ship and Official No.	Age of Ship, years.	Registered Port.	How Rigged Iron or wood, Steam or sail.	Register Tonnage.	Port sailed from. Port bound to.	Place where Casualty Happened.	Particulars of casualty. Name of Master.	Lives Lost.	Loss. Total or partial.
Dec. 20	Prince George 129,748	31	Newcastle	Schr. Steel	75	Seattle, Wash. Vancouver, B.C.	Burrard inlet, B.C.	Stranded. D. Donald.	.....	Part.
Mar. 28	Quickstep.	24	Gloucester, U.S.A.	Schr. Steam	75	Eastport, U.S.A. Eastport, U.S.A.	Barton, N.S.	Loss of Sails Geo. F. Spear.	.....	Part, \$1,500.
" 11	Robert Dollar. 129,587	3	Victoria, B.C.	F. & A. Sail	3,419	Portland Yokohama.	Columbia river bar, U.S.A.	Stranded R. L. Morton.	.....	Part, \$40,000.
April 29	Rakwana. 130,951	1	Lunenburg, N.S.	Schr. Steam	11	Lunenburg, N.S. Lunenburg, N.S.	Lunenburg harbour, U.S.A.	Collided with "Al-pha" A. Meisner.	.....	Part, ship, \$200; cargo, \$50.
May 29	Roma 107,125	14	Lunenburg, N.S.	Schr. Steam	99	Mahone bay, N.S. New York.	Nantucket bay, U.S.A.	Loss of anchors and chains. . . . .	.....	Part.
June 16	R. L. Borden. 130,817	2	Lunenburg, N.S.	Schr. Wood	99	Lunenburg, N.S.	Lat. 46° 30' N., Lon. 59° 19' W., North Atlantic.	Main mast sprung. G. A. Humbleman.	.....	Part.
July 25	Rolfe. 112,325	11	Parrsboro, N.S.	Schr. Wood	54	Parrsboro, N.S. Digby, N.S.	Minas basin, N.S.	Explosion from coal dust or escaped gas. L. A. Rowe.	.....	Part, \$100.
Aug. 1	Romeo. 100,073	22	St. John, N.B.	Schr. Sail	111	Providence, R.I. St. John, N.B.	Pollock Rip, U.S.A., North Atlantic.	Collided with "Sam-uel Dellaway." . . . .	.....	Part.
Oct. 21	Royal Edward 125,656	6	Toronto, Ont.	F. & A. Steel	5,668	Avonmouth, G.B. Montreal.	Lat. 51° 30' N., Lon. 3° 2' W., North Atlantic.	Damaged by heavy seas. P. M. Walton.	.....	Part.
Jan. 1	Statesman 105,319	18	Liverpool, G.B.	4 mts. Steel	4,003	Liverpool Victoria, B.C.	Lat. 37° 55' N., Lon. 123° 42' W. Pacific Ocean.	Collided with "John D. Sprickie." G. Bass.	2	Total.
May 15	Surprise. 100,448	15	Canso, N.S.	Schr. Wood	15	Margaree, N.S. Pictou, N.S.	Lismore, N.S.	Stranded. J. P. Nuclin.		Total, \$550.

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June 8	Shamrock.....	13	Lunenburg, N.S.	Schr.	88° 60' Bay of Ireland, Nfld. Five miles west of Carnberry island light.	Stranded. J. Renouf.	Total, ship, \$2,500; cargo, \$2,500.
July 9	Sarah A. Towns send. 88,438	29	Halifax, N.S.	Schr.	149 Newcastle, G.B. Off Cape Traverse, P.E.I., Northumberland straits.	Collided with "Cacina," J. G. Buffitt.	Heavy damage.
Sept. 9	Simla.....	23	Vancouver, B.C.	Schr.	2,093 Port Harford, Cal. Lat. 40° 12' N., Lon. 124° 18' W. Pacific Ocean.	Stranded. W. H. Moore.	Part, \$7,500.
" 14	Simla.....	23	Vancouver, B.C.	Steam Schr.	2,093 Vancouver, B.C. San Francisco hr.	Loss of anchor and cable.	Part.
Oct. 17	Sea Star. 75,680	....	Quebec.....	Steam Schr.	Murray Bay, P.Q. Quebec.	Stranded at low tide. A. Gagnon.	Part, \$50.
" 25	Sowell 112,727	1	London.....	Steel Schr.	2,430 Savannah. Havre, France.	Fire in cotton cargo. F. B. Evans.	Part, \$60,000.
Nov. 13	Sam Slick 107,301	15	Windsor, N.S.	Wood Schr.	90 Digby, N.S.	Stranded. G. W. Newcombe.	Part, \$100.
Dec. 19	Scotia Queen. 112,328	10	Parrsboro, N.S.	Schr.	108 St. John, N.B.	Stranded. J. V. Marsters.	Part.
Dec. 20	Senator. 80,902	33	Vancouver, B.C.	Sail 1 mt.	21 42 English Bay, B.C. False Creek, B.C.	Stranded. H. Gear.	Part., \$2,000.
Dec. 24	Sirdar 100,730	14	Bridgetown, Bdos.	Wood Bkte.	498 Mobile, Ala. Trinidad.	Foundered. Chas. McDade.	Total, \$8,000; cargo, \$10,000.
May 2	Tess. 95,929	20	Victoria, B.C.	Schr.	440 62 Victoria, B.C. Port Alberni, B.C.	Stranded. E. Gillam.	No damage.
Aug. 15	Texas	4	Sweden.....	Steel Schr.	2,200 Newport News. Copenhagen.	Engine damaged. G. Hillstrom.	Part.
Oct. 31	Theodore Roosevelt	12	American.....	Steam Schr.	90 Gloucester, U.S.A. Digby, N.S.	Stranded. Jas. F. Bowie.	Total.
Jan. 12	Uranium. 98,663	22	London, G.B.	Sail 3 mts.	3,322 Rotterdam. Halifax.	Stranded. R. Eustace.	Heavy damage.
Aug. 20	Uranium. 98,663	22	London, G.B.	Steel Schr.	3,322 New York Rotterdam.	Damaged by fire. T. R. Agassiz.	Part.
Feb. 9	Virginia 20,772	2	Foreign	Wood Schr.	73 Boston. Fishing.	Part of rigging carried away. A. M. Conrad.	Part., \$1,000.

STATEMENT OF WRECKS AND CASUALTIES reported as having occurred to British, Canadian, and foreign vessels in Canadian Waters, and to Canadian Vessels in other Waters, from January 1 to December 31, 1913.—*Continued.*

Date of Casualty.	Name of Ship and Off. No.	Age of Ship, years.	Registered Port.	How rigged. Iron or wood. Steam or Sail.	Register Tonnage.	Port sailed from Port sailed to.	Place where casualty happened.	Particulars of casualty. Name of master.	Lives Lost.	Loss. Total or partial.
April 29	Vipond	1	Halifax, N.S.	Schr. Wood	17	Halifax. Halifax.	Off Port Hood harbour, N.S.	Stranded. W. A. Martin.	.....	Part., \$5,000.
Sept. 8	Virginian. 116,330	9	Parrsboro, N.S.	Schr. Wood	100	Apple River, N.S. Boston, Mass.	Musquash head, N.B.	Stranded. Jas. Graham.	....	Part., ship, \$2,000; cargo, \$400.
Dec. 12	Victoria. 111,409	13	Lunenburg, N.S.	Schr. Wood	100	Bridgewater. New York.	Bay of Fundy.	Deck load carried away. Capt. Mahoney.	.....	No damage to vessel.
Jan. 9	W. N. Zuricker. 111,724	11	Bridgetown, Bdos.	Schr. Wood	398-13	Ingram Docks, N.S. New York.	75 miles W. S. W. of Cape Sable, N.S.	Waterlogged. J. L. Publicover.	.....	Part.
April 13	W. C. Silver 116,504	9	Lunenburg, N.S.	Schr. Wood	97	Halifax, N.S. Barbadoes.	Lat. 29° 59' N., Lon. 51° 54' W., North Atlantic.	Foretop mast broken and part of deck load carried away. Art. Crooks.	.....	Part., \$25.
June 9	Wabana. 131,402	2	Liverpool, G.B.	Schr. Steel	2,576	Sydney, N.S. Quebec.	Off Cloridorme, gulf St. Lawrence.	Stranded. D. Reside.	.....	Part.
July 23	Weidurg. ....	.....	American.	Steam. Wood	120	Seattle, Wash. Seattle, Wash.	Graham island, Pacific ocean.	Stranded. Otto Holmstrom.	.....	Total.
Sept. 6	Winnie Hazel. 126,133	4	Halifax, N.S.	Schr. Wood	68	Fernseuse, Nfld. Sydney, N.S.	Lat. 46° 30' N., Lon. 12° 30' W., Louisburg, N.S.	Destroyed by fire. Emm. Ford.	.....	Total, \$4,000.
Sept. 13	Whakatana. 111,348	13	Plymouth, G.B.	F. & A. Steel	3,686	London. Montreal.	Indian cove, St. Lawrence river.	Collided with wharf. J. H. Squire.	.....	Part.
Oct. 22	Wabana. 131,402	2	Liverpool, G.B.	Schr. Steel	2,576	Sydney, N.S. St. John, N.B.	Sydney harbour.	Collided with "Annie Roberts."	4	Part.
Nov. 1	Wanita. 100,019	16	Windsor, N.S.	Schr. Wood	42	St. John, N.B. Five Islands, N.S.	Off Clark head, N.S.	Stranded. F. E. McCumber.		Part., \$200.

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Nov. 25	W. C. Silver	99	Lunenburg, N.S.	Schr.	Wood Sail	42	St John, N.B. Economy, N.S.	42	St John, N.B. Economy, N.S.	Economy river	Stranded F. E. McCumber.	No damage.
Dec. 6	Wanita	16	Windor, N.S.	Schr.	Wood Sail	42	St John, N.B. Economy, N.S.	42	St John, N.B. Economy, N.S.	Economy river	Stranded F. E. McCumber.	No damage.
June 18	Ada Alice	35	Toronto, Ont.	Steel	Steam	1,020	Fort William, Montreal	1,020	Fort William, Montreal	Port Carling, Ont.	Damaged by fire	Part.
July 5	Ames	10	Newcastle-on-Tyne	Steel	Steam	1,202.81	Huron, Ohio Chicoutimi, P.Q.	1,202.81	Huron, Ohio Chicoutimi, P.Q.	Salmon point, lake Ontario	Stranded D. A. Chambers.	Part.
Sept. 3	A. E. McKinstry	4	Glasgow	Steel	Steam	770	Montreal	770	Montreal	Near Alexandria bay	Stranded A. E. Stinson.	Slight damage.
" 13	Arabian	21	Hamilton, Ont.	Steel	Steam	2348.98	Port Colborne Port McNicholl	2348.98	Port Colborne Port McNicholl	Lachine canal	Stranded	Part.
" 26	Athabaska	30	Montreal	Steel	Steam	9	Kingston, Fort William	9	Kingston, Fort William	North Pier, Canada Soo locks	Collided with pier J. B. Currie.	No damage.
Oct. —	Aberdeen	20	Kingston, Ont.	Iron	Steam	1,457	Kingston, Fort William	1,457	Kingston, Fort William	Near Crossover light, St. Lawrence river	Stranded	No damage.
Nov. —	Acadian	5	Glasgow	Steel	Steam	1,203	Montreal	1,203	Montreal	Sulphur island, U.S.A.	Stranded R. McIntyre.	Part, \$40,000.
" 11	A. E. McKinstry	4	Glasgow	Steel	Steam	1,388	Montreal	1,388	Montreal	Head of Murray canal	Stranded A. E. Stinson.	Trifling damage.
July 16	Byron Whitaker	23	American	Schr.	Wood Steam	864	Montreal	864	Montreal	Above Lachine pier	Carried away by cur- rent.	Part.
Aug. 7	Bickerkike	24	Ottawa	Steel	Steam	864	Montreal	864	Montreal	Middle island, lake Huron	Stranded J. E. Kohwest. D. Charland.	Part.
Oct. 7	Bickerkike	24	Ottawa	Steel	Steam	864	Montreal	864	Montreal	Lachine locks	Stranded D. Charland.	Part, \$10,000.
Nov. 19	Belleville	8	Montreal	Iron	Steam	607	Montreal	607	Montreal	100 yards E. of Jack Straw light, St. Lawrence river	Ashore W. Bloomfield.	Part.
Mar. 24	City of Montreal	42	Toronto	Iron	Steam	868	Montreal	868	Montreal	Canal basin, Mont- real	Burnt	Part, \$58,000.

INLAND WATERS VESSELS.

STATEMENT OF WRECKS AND CASUALTIES reported as having occurred to British, Canadian, and Foreign Vessels in Canadian Waters and to Canadian Vessels in other Waters, from January 1 to December 31, 1913.—Continued.

Date of Casualty.	Name of Ship and Off. No.	Age of Ship, years.	Registered Port.	How rigged. Iron or wood. Steam or Sail.	Register Tonnage.	Port sailed from. Port bound to.	Place where casualty happened.	Particulars of casualty and Name of Master.	Lives Lost.	Loss. Total or partial.
July 16	Calgary 133,514	1	Newcastle.....	Schr... Steel	1305.59	Port Colborne Montreal.	Welland canal.....	Collided with "Senator Derbyshire." J. B. Solery.	.....	Part, \$40.
Aug. 10	Canada.....	13	American.....	Motor Barge	91	Port Johnson. New York.	Cape Charles, St. Lawrence river.	Sprung a leak and sank.	.....	Total.
Aug. 27	Charles Gale..... 130,382	9	Amherstburg, Ont.	Wood Tug.	23	Amherstburg. Pelee island.	North Dock, lake Erie.	H. Goodrow. Burnt. F. J. Hackett.	.....	Total, \$2,500.
Sept. 6	Chickamauga.....	.....	.....	Wood Steam Barge	.....	.....	West point of Point Pelee, lake Erie.	.....	.....	.....
" 27	Catherine C..... 116,864	10	Ottawa.....	Tug..... Wood Steam	15.70	Sturgeon Falls, Ont.	Sturgeon river Channel, lake Nipissing	Destroyed by fire. C. Williams.	.....	Total, \$1,000.
Oct. 1	City of London...	.....	American.....	.....	.....	.....	Point Pelee, lake Erie.	Collided with "Joseph M. Morrow" and sank.	.....	Total.
" 2	Ceylon.....	.....	.....	Barge.....	.....	Port Colborne. Montreal.	Off Long point, lake Ontario.	Foundered.....	.....	Total.
" 30	Cornwall... 94,889	23	Montreal.....	Tow Barge Wood	285.56	Kingston. Montreal.	2½ miles below Upper Entrance Cornwall canal.	Foundered. W. Langevin.	.....	Total, \$5,000.
Nov. 18	Compton.....	.....	.....	Wood Tug.....	.....	.....	West of Lancaster, St. Lawrence river.	Stranded.....	.....	No apparent damage.
" 4	Castlegar... 130,556	2	Vancouver, B.C.	Wood Tug.....	70.83	Penticton Okanagan lake.	Okanagan lake, B.C.	Collided with "Skokum." S. Hill.	.....	Part.
May 22	Doric..... 116,263	9	Toronto, Ont.	Steel Steam Steel	1451.55	Fort William Depot Harbour.	Arial rock, Georgian bay.	Sprung a leak.	.....	Part.
June 17	Donnacoma... 110,383	13	Hamilton.....	Schr... Steel Steam	1222.3	Port Colborne Montreal.	Point Pelee.....	Stranded. R. Alexander.		Part.

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"	21 Fairmount	11	Montreal	1,184			Welland canal	Struck obstruction	Part.
Jan.	9 Gifford						Fraser river	Stranded	Part.
Mar.	25 George W. Parkins		American				Detroit river, Canadian side	Collided with "Nottingham"	Slight damage.
July	— Grantham	40	St. Catharines, Ont		Barge	Kingston	Outside of Salmon point	Stranded	Total, \$10,000.
	75,641			325	Wood	Salmon Point		J. Donnelly	
Sept.	5 Germanic	15	Collingwood, Ont.	676	Steam	Collingwood	North channel lake Huron	Collided with "Victoria K."	No damage.
	10,716			08	Wood	Blind River		F. G. Moles	
Nov.	— Guido	24	Sarnia, Ont.		Steam	Toronto	4 miles E. of Cobourg	Stranded	Total.
	126,223					Cobourg			
"	21 Glennmont	6	Montreal	1,246	Schr.	Port Arthur	Indian rock, Georgian bay	Stranded	No damage.
	122,408				Steel	Depot Harbour		H. Peter	
"	9 Huronic	2	Collingwood, Ont.	2,211	Steam		Whitefish bay	Stranded	No damage.
	107,163								
May	3 Iron City						St. Clair river	Collided with "Thomas F. Cole"	Total.
"	2 John Torrent	38	Sault Ste. Marie, Ont.		Tug	Richards	Richards Landing, lake Huron	Destroyed by fire	Total, \$2,000.
	122,440			27	Wood	Ont.			
July	29 John Sharples	10	Port Huron	919	Barge	Chicoutimi, P. Q.	Chicoutimi	Stranded	Part.
	77,587				Steel	Bie, P. Q.		H. L. Beauvis	
Aug.	5 James Carruthers	1	Grimsby	97	Steam	Prince Rupert	Digby island	Collided with wharf	Slight damage.
	134,748				Schr.	"			
Sept.	12 Joseph Touzin	14	Montreal	244	Steel	St. Maurice river	St. Maurice R.	Burnt	Part, \$5,000.
	126,494			08	Scow	"		A. Rondeau	
Oct.	7 John Duncan				Wood		Duck island	Sprung a leak	Part.
					Sail				
Sept.	28 John B. Ketchum				Barge		Welland canal	Collided with "Mapleton"	Slight.
					Steam				
Oct.	1 Joseph M. Morrow						Point Pelee, lake Erie	Collided with "City of London"	Part, \$5,000.
Nov.	10 James Carruthers	1	Toronto, Ont.	5,606		Collingwood	Lake Huron	Foundered	24 Total, \$275,000.
	131,090			19	Steel	Port Colborne		W. H. Wright	
					Steam				

STATEMENT OF WRECKS AND CASUALTIES reported as having occurred to British, Canadian, and foreign Vessels in Canadian Waters, and to Canadian Vessels in other Waters, from January 1 to December 31, 1913.—*Continued*

Date of Casualty.	Name of Ship and Off. No.	Age of Ship, years.	Registered Port.	How rigged.	Register Tonnage.	Port sailed from Port bound to.	Place where casualty happened.	Particulars of casualty.	Lives Lost.	Loss. Total or partial.
Nov. 9	J. M. Jinks	11	Fairport, U. S. A.	Steel	3,381	Duluth, Minn.	Beausoleil island, Georgian bay.	Stranded.	Part.	
June 5	Kenora 124,235	6	Glasgow	Steam	1,274.90	Montreal.	Near Lachine.	Stranded.	Part.	Part, ship: \$15,000, cargo, \$4,000.
July 13	Kenora 124,235	7	Glasgow	Steam	1,274.90	Toronto Montreal.	Lachine canal.	Collided with "Fair-mount."	Part.	Part.
June ..	Lloyd Porter ...	21	Pictou, Ont.	Steel	379	.....	Welland canal.	Struck gates of lock No. 1. ....	.....	Slight damage.
Nov. 8	Leafield, 97,990	2	Newcastle	Steel	922	Sault Ste. Marie.	Lake Superior	Foundered.	23	Total, \$60,000.
Feb. 1	Maniton.	11	Goderich, Ont.	Steam.	297	Fort William.	Owen Sound, Ont.	Destroyed by fire. ....	.....	Total.
May 13	Masaba 107,140	22	Toronto	.....	1,267	Montreal.	Welland canal.	Collided.	Part.	Part, \$6,000.
May 28	Major N. H. Ferry 126,130 .....	.....	Kingston	Steel	1,671.44	Erie, Pa.	Mouth of Murray Canal, lake Ontario.	Collided with and sank.	Total.	Total, \$2,100.
June 4	Majestic.	19	Collingwood	Wood	1,073	Montreal.	Half mile W. of Range Pier Lachine.	Collided with bank of canal.	Part.	Part, \$1,000.
July 8	Maggie F. Hally. 15,203	23	American	Steam	108	South Amboy, N. Y.	Lock No. 3 Lachine.	Foundered.	Total.	Total, ship \$000; cargo \$700.
July 25	Midland Queen. 110,991	12	Midland	Sail	1,348.97	Toronto Montreal.	Lake St. Francis.	Stranded.	Part.	Part.
July 27	Midland Queen. 110,991	12	Midland	Wood	1,348.97	Fort William.	Lake St. Louis.	Stranded.	Part.	Part.

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Oct.	20	Mary E. McLachlan.	American	1,762	Black bay, Ont.	Stranded.	Total.
Nov.	9	Meaford. 118,815	Newcastle.	1,201	Soo river.	Stranded. W. A. Richmond.	No damage.
Nov.	18	Mapleton 123,961	Sunderland, G.B.	1,139	Lake Huron.	Stranded. A. H. Foote.	Slight damage.
May	15	Premier 92,735	Toronto.	219	Corner Ground reef.	Struck a submerged rock.	Part.
July	..	Pontiac.	American.	46	Ogdensburg, N.Y. Toronto.	Damaged by fire.	Part, \$500.
Sept.	30	Prince Rupert 124,260	Kingston	1,714	Sydney. Port Arthur.	Collided with "W. D. Ross," O. Sullivan.	Part. \$1,200.
Aug.	28	Quinte Queen 111,665	Kingston	143	Grenville. Ottawa.	Stranded	No damage.
June	14	Rosemount. 103,565	Montreal.	989	Fort William. Montreal.	Collided with canal wall. J. H. G. Crocker	Part, ship \$2,000; cargo, \$1,400.
Sept.	25	Robert Mackay 107,419	Montreal.	87	Montreal Montreal.	Sprung a leak. E. Labelle.	Slight damage
Nov	9	Regina. 124,281	Toronto	1,956	Montreal. Port Arthur.	Foundered. E. H. McConkey.	45 Total, \$25,000.
May	13	Sequin. 94,763	Owen Sound.	771	Fort William. Montreal.	Collided with "Mas aba," W. J. Stitt.	Part, \$800.
July	7	St. Laurent 80,735	Montreal	189-31	Montreal St. Helen's Island.	Collided with "Val- leyfield."	Slight damage.
Aug.	20	Stormount 129,409	Montreal.	1230-83	Fort William. Montreal.	Stranded P. E. Tilfer.	Part, ship \$14,000; cargo, \$1,000.
Oct.	19	Sligo 72,711	Toronto	284-11	Point Ann. Toronto.	Tow line parted. D. M. Vicker.	No damage.
Nov.	13	Skookum 134,028	Victoria, B.C.	108-99	Peachland Pénicton.	Collided with "Cas- legar," P. J. Languedoc.	Total.
Oct.	1	Thomas Adams			Walpole island, Ont.	Stranded	No damage.
Oct.	23	Toiler	Newcastle, G.B.	1,096	Port Colborne. Montreal.	Struck canal wall. Jas. Dix.	Part, \$400.

STATEMENT OF WRECKS AND CASUALTIES reported as having occurred to British, Canadian, and Foreign Vessels in Canadian Waters, and to Canadian Vessels in other Waters, from January 1 to December 31, 1913—*Concluded*.

Dates of Casualty.	Name of Ship and Official No.	Age of Ship, years.	Registered Port.	How Rigged. Iron or wood, Steam or sail.	Register Tonnage.	Port sailed from. Port bound to.	Place where Casualty Happened.	Particulars of casualty. Name of Master.	Lives Lost.	Loss. Total or partial.
Oct. 11	Thomas H. Cahoon 126,658	32	Midland, Ont.	Barge Wood	.....	Sault Ste. Marie, Bying inlet.	North channel, Georgian bay.	Stranded. F. McPhail.	.....	Total, \$8,000.
Nov. 8	Turrett Chief 106,605	17	Newcastle, G.B.	Barge Iron Steam	1,197	Midland Fort William.	5 miles of Copper Island, lake Superior.	Stranded The. Padginton.	.....	Total.
July 7	Valleyfield 69,605	40	Montreal	Iron and wood Steam	280-17	St. Helen's island "	Montreal harbour...	Collided with "St. Laurent," Geo. Marion.	.....	Slight damage.
May 3	Wm. S. Mack 94,763	12	Fairport, U.S.A.	Steam Steel Steam	2,185	Fort William Fairport, U.S.A.	St. Mary river	Collided with "Turret Crown," Wm. Morehead.	.....	Part, \$10,000.
June 13	Winnie Wing	.....	.....	.....	.....	.....	Napanee river	Collided with mud scow.	.....	Part.
June 29	W. H. Price 112,332	.....	Collingwood	Tug Steam	.....	.....	Near Parry Sound	Destroyed by fire	.....	Total, \$1,500.
July 2	Winnipeg 122,280	.....	Winnipeg	Barge	.....	.....	Whale back shoal, Ont.	Stranded	.....	Slight damage.
Sept. 20	W. P. Snyder	.....	.....	.....	.....	.....	Bar point, Ont.	Stranded	.....	No damage.
Nov. 8	Wexford 87,342	30	London	Steel Steam	2,104	Fort William Goderich, Ont.	Lake Huron	Foundered	18	Total, \$107,000.

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APPENDIX No. 9.

ANNUAL REPORT OF THE MASTERS AND SEAMEN BRANCH.

To the Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit the 1913-14 annual report of this branch.

GOVERNMENT NAVIGATION SCHOOLS.

During the twelve months ended March 31, 1914, navigation schools were in operation for longer or shorter periods at Quebec, Que., North Sydney and Yarmouth, N.S., St. John, N.B., Collingwood, Ont., and at Vancouver, B.C.

At Quebec, Captain P. L. Lachance, instructor, the school was in operation 240 days. The total attendance was 1,239, an average attendance of over 5 each day.

At North Sydney, Captain James Sutherland, instructor, 27 sessions were held. The total attendance was 147, an average attendance of over 5 at each session.

At Yarmouth, Captain J. E. Murphy, instructor, 31 sessions were held. The total attendance was 588, an average attendance of over 18 at each session.

At St. John, Captain Rufus C. Cole, instructor, the attendance was not so regular owing probably to the fact that the school was a new undertaking at this port.

At Collingwood, Captain Geo. C. Coles, instructor, 32 sessions were held. The total attendance was 588, an average attendance of over 18 at each session.

At Vancouver, Captain Chas. Eddie, instructor, 17 sessions were held. The total attendance was 298, an average attendance of over 17 at each session.

MASTERS AND MATES.

During the twelve months ended March 31, 1914, three new examiners of masters and mates were appointed, viz., Captain F. N. Malcolm, at Halifax, N.S.; Captain W. R. Bennett, at St. John, N.B.; and Captain J. D. Macpherson, at Victoria, B.C.; and during the same period examinations were reported as follows:—

Eastern Division.

At Halifax, N.S., Captain Malcolm, examiner, 48 candidates were examined: 2 for master, 2 for mate, and 3 for second mate, sea-going; 19 for master and 19 for mate, coasting; and 2 for master and 1 for mate, minor waters. Four candidates failed for mate, coasting. One person underwent the sight tests.

At Yarmouth, N.S., Captain Murphy, examiner, 77 candidates were examined: 11 for master, 12 for mate, and 9 for second mate, sea-going; 19 for master and 18 for mate, coasting; 1 for master, inland waters; and 5 for master and 2 for mate, minor waters. Thirteen candidates failed: 3 for master, 5 for mate, and 2 for second mate, sea-going; and 2 for master and 1 for mate, coasting.

At North Sydney, N.S., Captain Sutherland, examiner, 11 candidates were examined: 2 for master and 1 for mate, sea-going; 4 for master and 1 for mate, coasting; and 1 for master and 2 for mate, minor waters. Five candidates failed: 1 for master, sea-going; 2 for master, coasting; and 2 for mate, minor waters.

At St. John, N.B., Captain Bennett, examiner, 2 candidates were examined: 2 for master, minor waters. One person underwent the sight tests.

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At Charlottetown, P.E.I., Captain Cameron, examiner, 14 candidates were examined: 2 for master, coasting; 9 for master and 2 for mate, minor waters; and 1 for temporary certificate.

At Quebec, Que., Captain Lachance, examiner, 100 candidates were examined: 4 for second mate, sea-going; 8 for master and 25 for mate, coasting; 10 for master and 9 for mate, inland waters; 30 for master and 13 for mate, minor waters; and 1 for temporary certificate. Thirty-two candidates failed: 2 for second mate, sea-going; 3 for master and 5 for mate, coasting; 6 for master and 5 for mate, inland waters; and 7 for masters and 4 for mate, minor waters. Seventeen persons underwent the sight tests.

At Montreal, Que., Captain Riley, examiner, 34 candidates were examined: 1 for master, coasting; 5 for master and 5 for mate, inland waters; 16 for master and 1 for mate, minor waters; and 6 for temporary certificates.

Western Division.

At Vancouver, B.C., Captain Eddie, examiner, 102 candidates were examined: 1 for master, 6 for mate and 7 for second mate, sea-going; 34 for master and 45 for mate, coasting; 4 for master, inland waters; 4 for mate, minor waters; and 1 for temporary certificate. Twenty-five candidates failed: 5 for master and 17 for mate, coasting; 1 for master, inland waters; and 2 for mate, minor waters. One person underwent the sight tests.

At Victoria, B.C., Captain Macpherson, examiner, 24 candidates were examined: 17 for master and 4 for mate, coasting; and 1 for master and 2 for mate, minor waters. One candidate failed for mate, coasting. Thirteen persons underwent the sight tests.

At Nelson, B.C., Lieutenant Hallett, examiner, 12 candidates were examined: 4 for master and 7 for mate, minor waters; and 1 for temporary certificate. Two candidates failed for mate, minor waters.

At Edmonton, Alta., Captain Grant, examiner; 1 candidate was examined for master, minor waters.

Inland Waters Division.

At Toronto, Ont., Captain King, examiner, 109 candidates were examined: 41 for master and 35 for mate, inland waters, 11 for master and 9 for mate, minor waters; and 13 for temporary certificates. Eighteen candidates failed: 8 for master and 5 for mate, inland waters; and 1 for master and 4 for mate, minor waters. Seven persons underwent the sight tests.

At Collingwood, Ont., Captain Coles, examiner, 52 candidates were examined: 1 for master and 1 for mate, coasting; 15 for master and 25 for mate, inland waters; 3 for master and 5 for mate, minor waters; and 2 for temporary certificates. Seven candidates failed: 1 for master and 5 for mate, inland waters; and 1 for mate, minor waters.

At Kenora, Ont., Captain Phillips, examiner, 4 candidates were examined for temporary certificates.

At West Selkirk, Man., Captain Thordarson, examiner, 8 candidates were examined: 2 for master and 2 for mate, inland waters; and 3 for master and 1 for mate, minor waters.

CERTIFICATES ISSUED.

During the year the following numbers and grades of certificates have been issued to masters and mates: 12 masters', 16 mates' and 19 second mates' sea-going certificates of competency; 1 master's and 1 mate's coasting certificates of service; 92 masters' and 84 mates' coasting certificates of competency; 62 masters' and 61

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mates' inland waters certificates of competency; 80 masters' and 34 mates' minor waters certificates of competency; and 29 masters, temporary certificates. A complete list of masters' and mates certificates issued during the year follows.

RECEIPTS AND EXPENDITURE.

The total amount collected in the way of examination fees for certificates during the twelve months ended March 31, 1914, was \$5,558.75, and the amount expended on account of this service was \$13,273.11, an excess of expenditure over receipts of \$7,714.36.

The following statement shows the total receipts and expenditures on account of masters and mates during the last ten years:—

	Expenditure.	Receipts.
	\$ cts.	\$ cts.
For the fiscal year ended June 30, 1905.....	5,884 74	4,643 85
" " June 30, 1906.....	7,068 15	5,526 00
" " March 31, 1907 (nine months).....	5,934 16	2,294 50
" " March 31, 1908.....	11,508 31	4,306 05
" " March 31, 1909.....	8,244 56	4,192 50
" " March 31, 1910.....	6,662 52	4,314 50
" " March 31, 1911.....	5,801 62	4,446 61
" " March 31, 1912.....	7,226 54	3,970 00
" " March 31, 1913.....	9,992 66	3,639 06
" " March 31, 1914.....	13,273 11	5,558 75
Expenditure.....	81,596 37	42,891 82
Receipts.....	42,891 82	
Excess of expenditure over receipts.....	38,704 55	

I have the honour to be, sir,

Your obedient servant,

B. F. BURNETT,

Officer in Charge,

Masters and Seamen Branch.

MASTERS AND SEAMEN BRANCH,

DEPARTMENT OF MARINE AND FISHERIES,

OTTAWA, April 1, 1914.

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LIST of Sea-going Certificates of Competency issued to Masters, Mates and Second Mates, during the twelve months ended March 31, 1914.

No. of Certificate.	Date of Certificate.	Name.	Grade.	Address.	Where Examination was Passed.	Fee.
	1913.					\$ cts.
3986	April 24.	Maynard Fielden.	Master.	New York, U.S.A.	Yarmouth, N.S.	15 00
3987	" 24.	Joseph Mills.	2nd Mate.	Brixham, Devon.	Vancouver, B.C.	8 00
3988	" 24.	Maurice N. Barkhouse.	"	Kingsport, N.S.	Yarmouth.	8 00
3989	May 9.	Andrew Mercer.	Mate.	Edinburgh, Scotland.	Vancouver, B.C.	8 00
3990	" 9.	William Douglas Ryan.	2nd Mate.	San Francisco, U.S.A.	"	8 00
3991	" 9.	Erastus E. Larkin.	"	Pubnico, N.S.	Yarmouth, N.S.	8 00
3992	" 22.	James J. Burke.	"	St. John, N.B.	"	8 00
3993	" 30.	John Douglas Lane.	Mate.	Vancouver, B.C.	Vancouver, B.C.	8 00
3994	June 10.	Percy Ware.	"	Sydney, N.S.	North Sydney, N.S.	8 00
3995	" 17.	Beecher P. Powell.	"	Yarmouth, N.S.	Yarmouth, N.S.	8 00
3996	" 17.	Richard Charles Lechner.	Master.	New Jersey, U.S.A.	"	15 00
3997	" 25.	Alphonse George Gleeson.	Mate.	New York, U.S.A.	"	8 00
3998	July 2.	James Edward Smith.	Master.	Hantsport, N.S.	"	15 00
3999	" 14.	William Stanley Gordon.	2nd Mate.	Charlottetown, P.E.I.	"	8 00
4000	" 18.	John Grosset.	Mate.	Dundee.	Vancouver, B.C.	8 00
4001	" 21.	Foster Bullerwell.	"	Parrsboro, N.S.	Yarmouth, N.S.	8 00
4002	Aug. 11.	Charles Edward Slater.	Master.	New York, U.S.A.	"	15 00
4003	" 13.	Hugh MacCallum.	Mate.	Port Pirie, South Aust.	Vancouver, B.C.	8 00
4004	" 21.	Henry John Perks.	2nd Mate.	New York, U.S.A.	"	8 00
4005	" 27.	Andrew Brown.	Master.	Brooklyn, N.Y.	Yarmouth, N.S.	15 00
4006	Sept. 6.	William McWhinnie.	Mate.	New York, U.S.A.	"	8 00
4007	" 26.	Arthur Ellis.	Master.	Sydney, N.S.	"	15 00
4008	" 26.	Donald Campbell.	"	Skye, Scotland.	Vancouver, B.C.	15 00
4009	" 26.	Charles Hunt Gowing.	2nd Mate.	Bellesdon, Norwich, Eng.	"	8 00
4010	" 26.	Hugh C. Warner.	Mate.	Bridgewater, N.S.	Yarmouth, N.S.	8 00
4011	" 26.	David Oswald Davies.	Master.	Bronaugh New Quay, Wales.	North Sydney, N.S.	15 00
4012	Oct. 7.	William Thomas Morgan.	2nd Mate.	Salmon Cove, Nfld.	Halifax, N.S.	8 00
4013	" 17.	Cecil Claxton.	Mate.	Middle Temple, London, Eng.	Vancouver, B.C.	8 00
4014	" 21.	Alexander H Birks.	Master.	Boston, Mass.	Yarmouth, N.S.	15 00
4015	" 21.	John V. Redmond.	2nd Mate.	New York, U.S.A.	"	8 00
4016	" 27.	James Duffy.	Mate.	San Francisco, U.S.A.	Vancouver, B.C.	8 00
4017	Nov. 6.	Walter Denson.	"	New York, U.S.A.	Yarmouth, N.S.	8 00
4018	" 18.	Frederick Charles Weeks.	"	Vancouver, B.C.	Vancouver, B.C.	8 00
4019	Dec. 1.	Thomas Ainsley Ensor.	Master.	New York, U.S.A.	Yarmouth, N.S.	15 00
4020	" 1.	Albert Haithwaite Gardner.	"	Seacombe, Eng.	Halifax, N.S.	15 00
4021	" 1.	Thomas Campbell Banerman.	2nd Mate.	Halifax, N.S.	"	8 00
4022	" 4.	James Sinclair.	"	Yarmouth, N.S.	Yarmouth, N.S.	8 00
4023	" 4.	Leslie Kenneth G. Joss.	"	Vancouver, B.C.	Vancouver, B.C.	8 00
4024	" 4.	Alexander Sullivan.	"	Liverpool, Eng.	"	8 00
	1914.					
4025	Feb. 16.	George Hayes.	Master.	Halifax, N.S.	Halifax, N.S.	15 00
4026	" 24.	Alfred Joseph Creer.	2nd Mate.	Vancouver, B.C.	Vancouver, B.C.	8 00
4027	" 24.	Herbert William Doyle.	Mate.	Halifax, N.S.	Halifax, N.S.	8 00
4028	" 27.	Charlie George Brinkman.	"	"	"	8 00
4029	Mar. 5.	William Wallace Marshall.	2nd Mate.	Clifton, N.S.	"	8 00
4030	" 5.	Joseph Florian Lacombe.	"	Montmagny, P.Q.	Quebec, P.Q.	8 00
4031	" 23.	Antoine Fournier.	"	St. Jean Port Joli, P.Q.	"	8 00
4032	" 23.	Maurice Geldert.	Mate.	Lunenburg, N.S.	Yarmouth, N.S.	8 00

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LIST OF CERTIFICATES OF COMPETENCY issued to Masters and Mates of Coasting and Inland Vessels during the twelve months ended March 31, 1914.

No. of Certificate.	Date of Certificate.	Name.	Grade.	Address.	Where Examination was Passed.	Fee.
	1913.					\$ cts.
7039	April 16..	Thomas R. McLeod....	Mate.....	Keady, Ont.....	Collingwood, Ont..	6 00
7040	" 16..	Anson Burke Smith....	"	Midland, Ont.....	"	6 00
7041	" 16..	William Thomas Bonnett	"	Windsor, Ont.....	"	6 00
7042	" 16..	Walter John Willett....	Master.....	Parry Sound, Ont....	"	15 00
7043	" 16..	Joseph Eudor Houde....	"	St. Antoine, P.Q....	Quebec, P.Q.....	15 00
7044	" 16..	Joseph Emile Fortin....	Mate.....	Cap St. Ignace, P.Q....	"	6 00
7045	" 16..	Russell Coffin.....	"	York Centre Gaspe, P.Q.	"	6 00
7046	" 16..	Cyrille Pouliot.....	"	Chateau Richer, P.Q..	"	6 00
7047	" 16..	Asa McLeod	Master.....	Chatham, N.B.....	Charlottetown, P.E.I.	15 00
7048	" 16..	Carl August Goodwin....	"	Baie Verte, N.B.....	"	15 00
7049	" 16..	Daniel Brennan.....	"	Charlottetown, P.E.I.	"	15 00
7050	" 16..	John Guy	"	St. John, N.B.....	Yarmouth, N.S....	15 00
7051	" 16..	Bruce Verner Weston....	"	"	"	15 00
7052	" 16..	Frederick A. Turner....	"	Marie Joseph, N.S....	"	15 00
7053	" 16..	Charles Marvin Fraser....	"	Edwardsville, N.S....	North Sydney, N.S.	15 00
7054	" 16..	John Theodore Dicks....	Master.....	North Sydney, N.S....	North Sydney, N.S.	15 00
7055	" 16..	Roderick MacKenzie....	"	South Vancouver, B.C.	Vancouver, B.C....	15 00
7056	" 16..	James Flood	Mate.....	Victoria, B.C.....	Victoria, B.C.....	6 00
7057	" 16..	Edward Sloane	Master.....	Vancouver, B.C.....	Vancouver, B.C....	15 00
7058	" 16..	Irving C. Foster	Mate.....	Smiths Falls, Ont....	Toronto, Ont.....	6 00
7059	" 16..	William Garriock.....	Master.....	Port Arthur, Ont....	Port Arthur, Ont..	15 00
7060	" 16..	William Alexander	"	Nipigon, Ont.....	"	15 00
7061	" 16..	Arthur Watson	"	Corunna, Ont.....	"	15 00
7062	" 16..	Henry Louis Gehl	"	Port Arthur, Ont....	"	15 00
7063	" 16..	William Hyland.....	Mate.....	Sault Ste. Marie, Ont..	Sault Ste. Marie, Ont.	6 00
7064	" 16..	George Andrew Bridge....	Master.....	"	Sault Ste. Marie, Ont.	15 00
7065	" 16..	Joseph Hobbs	"	"	Sault Ste. Marie, Ont.	15 00
7066	" 16..	Allan McAulay	Mate.....	Goderich, Ont.....	Goderich, Ont.....	6 00
7067	" 16..	Bert MacLean.....	"	"	"	6 00
7068	" 16..	John Parker	"	Warton, Ont.....	Toronto, Ont.....	6 00
7069	" 16..	Harold F. Randall.....	Master.....	Seeley's Bay, Ont....	"	15 00
7070	" 16..	Frederick John Marigold	"	Toronto, Ont.....	"	15 00
7071	" 16..	William Alfred Geddes....	Mate.....	"	"	6 00
7072	" 16..	David Bourgault.....	Master.....	St. Roch des Aulnaies, P.Q.	Quebec, P.Q.....	15 00
7073	" 16..	John Theodore Dicks....	Mate.....	North Sydney, N.S....	North Sydney, N.S.	6 00
7074	" 24..	Robert Patterson.....	Master.....	Kingston, Ont.....	Toronto, Ont.....	15 00
7075	" 24..	Frank Edgar Smith.....	"	Yarmouth, N.S.....	Yarmouth, N.S....	15 00
7076	" 24..	John P. Shears	"	St. John, N.B.....	"	15 00
7077	" 24..	Wm. Warden Dauphinee	Mate.....	French Village, N.S....	Halifax, N.S.....	6 00
7078	" 24..	Charles Barker Smith....	Master.....	Vancouver, B.C.....	Vancouver, B.C....	15 00
7079	" 24..	Gabriel Lachance.....	Mate.....	St. Jean Isle D'Orleans, P.Q.	Quebec, P.Q.....	6 00
7080	" 24..	Ernest Pouliot.....	"	Chateau Richer, P.Q..	"	6 00
7081	" 24..	Bastien Ancil.....	"	Montcalmville, P.Q..	"	6 00
7082	" 24..	Joseph Adelard Bernier	"	Quebec, P.Q.....	"	6 00
7083	" 24..	Jean Baptiste Gamache....	"	L'Islet, P.Q.....	"	6 00
7084	" 24..	Joseph Nap. Riverin....	"	Pointe a Pic Malbaie, P.Q.	"	6 00
7085	" 24..	George Duguay	"	Pointe a Pic Malbaie, P.Q.	"	6 00
7086	" 24..	Diogene Couillard	"	Montmagny, P.Q.....	"	15 00
7087	April 24..	William P. Tinkiss.....	Master.....	Bracebridge, Ont....	Toronto, Ont.....	15 00
7088	" 24..	Jack Finlater Nicholles	Mate.....	Victoria, B.C.....	Victoria, B.C.....	6 00
7089	" 24..	John Alexander MacDonald	"	Vancouver, B.C.....	"	6 00
7090	" 24..	John Frederick Sowards	Master.....	Kingston, Ont.....	Montreal, Que....	15 00
7091	" 24..	Arnold Robert Henry....	"	Prescott, Ont.....	"	15 00

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LIST of Certificates of Competency issued to Masters and Mates of Coasting and Inland Vessels during the twelve months ended March 31, 1914.—*Continued.*

No. of Certificate.	Date of Certificate.	Name.	Grade.	Address.	Where Examination was Passed.	Fee.
	1913.					\$ cts.
7092	April 24..	Alphonse Robinault.....	Master.....	Valleyfield, Que.....	Montreal, Que.....	15 00
7093	" 24..	Joseph Oscar Scicotte.....	Mate.....	Valleyfield, P.Q.....	".....	6 00
7094	" 24..	George Daniel Lewis.....	Master.....	Loggieville, N.B.....	Chatham, N.B.....	15 00
7095	" 24..	Robert Allison.....	".....	North Esk, N.B.....	Newcastle, N.B.....	15 00
7096	" 21..	Alvan Vye.....	".....	South Nelson Road, N.B.	".....	15 00
7097	" 24..	Rowland Waldo Crocker	".....	Newcastle, N.B.....	".....	15 00
7098	" 24..	Enund Clemous Crocker	".....	Newcastle, N.B.....	".....	15 00
7099	" 29..	Peter J. Wilcox.....	".....	Louisburg, N.S.....	Yarmouth, N.S.....	15 00
7100	" 29..	Oscar Leblanc.....	Mate.....	St. Zotique, P.Q.....	Montreal, P.Q.....	6 00
7101	" 29..	Napoleon Mathurin.....	".....	Quebec, P.Q.....	Quebec, P.Q.....	6 00
7102	" 29..	David John Gardner.....	".....	Halifax, N.S.....	Yarmouth, N.S.....	6 00
7103	" 29..	Oscar Mercier.....	Master.....	Berthier, P.Q.....	Montreal, P.Q.....	15 00
7104	" 29..	Vincent Thomas Mc- Eachran.	Mate.....	Nelson, N.B.....	Chatham, N.B.....	6 00
7105	" 29..	Patrick John McCarthy.	Master.....	Chatham, N.B.....	".....	15 00
7106	" 29..	Ernest Tufts.....	".....	St. John, N.B.....	Yarmouth, N.S.....	15 00
7107	May 9..	Robert Byers.....	".....	Spanish, Ont.....	Collingwood, Ont.....	15 00
7108	" 9..	Alex. McKay.....	Mate.....	Selkirk, Man.....	West Selkirk, Man.....	6 00
7109	" 9..	James Alexander Menagh	Master.....	Smith's Fall's, Ont.....	Toronto, Ont.....	15 00
7110	" 9..	John Simard.....	Mate.....	Limoulu, P.Q.....	Quebec, P.Q.....	6 00
7111	" 9..	Samuel Rioux.....	Master.....	Quebec, P.Q.....	".....	15 00
7112	" 9..	Francis Xavier Laviolette	".....	Montreal, P.Q.....	Montreal, P.Q.....	15 00
7113	" 9..	Patrick Delaney.....	Mate.....	Chatham, N.B.....	Charlottetown, P.E.I.	6 00
7114	" 10..	Louis Henri Dufour.....	Master.....	Chicoutimi, P.Q.....	Quebec, P.Q.....	15 00
7115	" 14..	Richard Joseph A. Hard- ing.	Mate.....	Vancouver, B.C.....	Vancouver, B.C.....	6 00
7116	" 14..	Hans Magnus Furustad.	Master.....	".....	".....	15 00
7117	" 14..	Hans Magnus Furustad.	Mate.....	".....	".....	6 00
7118	" 14..	John Wolstenholme Dre- yer.	".....	".....	".....	6 00
7119	" 14..	Rufus J. Weldon.....	Master.....	St. John West, N.B.....	Yarmouth, N.S.....	15 00
7120	May 14..	Archie Ward.....	Master.....	St. John, N.N.....	Yarmouth, N.S.....	15 00
7121	" 14..	William John Shanahan.	".....	Nelson, N.B.....	Chatham, N.B.....	15 00
7122	" 14..	Alexander Rainsborough	".....	Chatham, N.B.....	".....	15 00
7123	" 19..	William Shearer.....	".....	Campbellton, N.B.....	Yarmouth, N.S.....	15 00
7124	" 22..	Theodore Gordon G. Mahon.	Mate.....	Procton, B.C.....	Nelson, B.C.....	6 00
7125	" 22..	Simon Kenneth Fraser..	Master.....	Amherstburgh, Ont.....	Toronto, Ont.....	15 00
7126	" 22..	Joseph Doyle.....	".....	Vancouver, B.C.....	Vancouver, B.C.....	15 00
7127	" 22..	Adrien Poitras.....	Mate.....	Montreal, P.Q.....	Quebec, P.Q.....	6 00
7128	June 2..	William Lawrence Yates	Master.....	Vancouver, B.C.....	Vancouver, B.C.....	15 00
7129	" 2..	Alcide Talbot.....	Mate.....	Berthier, P.Q.....	Quebec, P.Q.....	6 00
7130	" 2..	Ulderich Lemieux.....	Master.....	Levis, P.Q.....	".....	15 00
7131	" 2..	Howard B. Golding.....	".....	North Wharf, St. John, N.B.	Yarmouth, N.S.....	15 00
7132	" 10..	James Fitzgerald.....	".....	St. John, N.B.....	".....	15 00
7133	" 10..	Wilfrid Robitoux.....	".....	Yamaska, Que.....	Montreal, Que.....	15 00
7134	" 10..	Omer Pothier.....	".....	Aylmer, P.Q.....	".....	15 00
7135	" 10..	Ernest Pothier.....	Mate.....	".....	".....	6 00
7136	" 10..	Amedée Caron.....	Master.....	L'Islet, P.Q.....	Quebec, P.Q.....	15 00
7137	" 13..	Ralph William Carthew.	Mate.....	Victoria, B.C.....	Victoria, B.C.....	6 00
7138	" 16..	Joseph Bibau.....	Master.....	St. Anne de Sorel, P.Q.	Montreal, P.Q.....	15 00
7139	" 19..	James Cunningham.....	Master.....	Victoria, B.C.....	Victoria, B.C.....	15 00
7140	" 25..	Richard Trist.....	".....	Dryden, Ont.....	West Selkirk, Man.....	15 00
7141	" 25..	Richard Whiteman.....	".....	".....	".....	15 00
7142	" 25..	Stanley Maynard.....	".....	Okanagan Landing, B.C.	Nelson, B.C.....	15 00
7143	" 25..	Henry James Stacey.....	".....	Vancouver, B.C.....	Vancouver, B.C.....	15 00
7144	" 25..	Charles Savard.....	".....	Chicoutimi, P.Q.....	Quebec, P.Q.....	15 00
7145	July 2..	William Henry S. Mc- Donald.	".....	Selkirk, Man.....	West Selkirk, Man.....	15 00
7146	" 2..	William Henry S. Mc- Donald.	Mate.....	".....	".....	6 00

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LIST of Certificates of Competency issued to Masters and Mates of Coasting and Inland Vessels during the twelve months ended March 31, 1914—*Continued.*

No. of Certificate.	Date of Certificate	Name.	Grade.	Address.	Where Examination was Passed.	Fee.
	1911.					\$ cts.
7147	July 2.	Frederick Cogle.....	Master.....	Proctor, B.C.....	Nelson, B.C.....	15 00
7148	" 2.	Frank Wood.....	".....	Woods Harbour, N.S.....	Yarmouth, N.S.....	15 00
7149	" 2.	Thomas Watt Weir.....	".....	Cushing, P.Q.....	Montreal, P.Q.....	15 00
7150	" 11.	William McKillop.....	".....	Vancouver, B.C.....	Vancouver, B.C.....	15 00
7151	" 11.	William McKillop.....	Mate.....	".....	".....	6 00
7152	" 11.	John Fraser Crichton.....	Master.....	New Westminster, B.C.....	".....	15 00
7153	" 11.	James Edward Langue- doc.....	".....	Gaspé Basin, P.Q.....	Quebec, P.Q.....	15 00
7154	" 11.	James Henry Simpson.....	Master.....	Brockville, Ont.....	Montreal, Que.....	15 00
7155	" 11.	Colland Massicotte.....	".....	Ste. Genevieve, Ont.....	".....	15 00
7156	" 16.	James Ruxton McKay.....	Mate.....	Victoria, B.C.....	Vancouver, B.C.....	6 00
7157	" 21.	Donat Beaudet.....	Master.....	Montreal, P.Q.....	Montreal, Que.....	15 00
7158	" 28.	John Wilson.....	Mate.....	Kenora, Ont.....	West Selkirk, Man.....	6 00
7159	" 28.	Thomas Lake Vandusen.....	Master.....	Pictou, Ont.....	Kingston, Ont.....	15 00
7160	" 28.	William Le Feuvre Che- valier.....	Mate.....	Vancouver, B.C.....	Vancouver, B.C.....	6 00
7161	" 28.	Harold Earnest Brown.....	Master.....	Lake Port, Ont.....	Kingston, Ont.....	15 00
7162	" 31.	Milton Janes.....	Mate.....	Port Dover, Ont.....	Collingwood, Ont.....	6 00
7163	" 31.	Vincent Laforest.....	Master.....	Ile de St. Ignace de Lovola.....	Montreal, Que.....	15 00
7164	Aug. 11.	Neil Perceval.....	".....	South Vancouver, B.C.....	Vancouver, B.C.....	15 00
7165	" 13.	James Banaghan.....	Mate.....	New Westminster, B.C.....	".....	6 00
7166	" 13.	Frederick E. Williams.....	".....	Halifax, N.S.....	Yarmouth, N.S.....	6 00
7167	" 13.	James F. Berry.....	".....	Annapolis, N.S.....	".....	6 00
7168	" 18.	Angus McDonald.....	".....	Nelson, B.C.....	Nelson, B.C.....	6 00
7169	" 18.	Donald McKinnon.....	".....	Vancouver, B.C.....	Vancouver, B.C.....	6 00
7170	" 18.	Joseph Edmond De Vil- lers.....	".....	Lotbinière, P.Q.....	Quebec, Que.....	6 00
7171	" 25.	David Henry Armit.....	Master.....	Fort Frances, Ont.....	West Selkirk, Man.....	15 00
7172	" 25.	Darius Smith.....	".....	West Vancouver, B.C.....	Vancouver, B.C.....	15 00
7173	" 25.	Ernest Vezina.....	Mate.....	Bellechasse, P.Q.....	Quebec, Que.....	6 00
7174	" 27.	Stephen Carlson.....	Master.....	East Vancouver, B.C.....	Vancouver, B.C.....	15 00
7175	" 27.	Harold F. Henry.....	Mate.....	Halifax, N.S.....	Yarmouth, N.S.....	6 00
7176	" 27.	William Herbert Ransom.....	Master.....	King, Ont.....	Toronto, Ont.....	15 00
7177	" 27.	George Cecil Cleveland.....	Mate.....	Halifax, N.S.....	Yarmouth, N.S.....	6 00
7178	" 27.	Reid W. Lewis.....	Master.....	St. John, N.B.....	".....	15 00
7179	" 28.	Charles A. deLachevro- tière.....	Mate.....	Lotbinière, P.Q.....	Quebec, Que.....	6 00
7180	" 29.	James H. Wagner.....	Master.....	Port Mouton, N.S.....	Yarmouth, N.S.....	15 00
7181	Sept. 30.	Albert Lachance.....	Mate.....	Quebec, P.Q.....	Quebec, Que.....	6 00
7182	" 30.	Reginald V. McQueen.....	Master.....	Sandwich, Ont.....	Collingwood, Ont.....	15 00
7183	" 30.	Arthur F. Thompson.....	Mate.....	Beaumaris, Ont.....	".....	6 00
7184	" 30.	Zenon Laforest.....	Master.....	St. Joseph de Sorel, P.Q.....	Montreal, Que.....	15 00
7185	" 30.	Paul Lavallée.....	".....	Ste. Anne de Sorel, P.Q.....	".....	15 00
7186	" 30.	John Simpson.....	Mate.....	Penticton, B.C.....	Nelson, B.C.....	6 04
7187	Sept. 30.	Murdock Campbell.....	Mate.....	Stornoway, Sask.....	Nelson, B.C.....	6 00
7188	" 30.	William Crawford.....	Master.....	West Selkirk, Man.....	West Selkirk, Man.....	15 00
7189	" 30.	Charles Edward Wood- roffe.....	".....	Bardesdale, Ont.....	Toronto, Ont.....	15 00
7190	" 30.	Andrew Sinclair.....	".....	Victoria, B.C.....	Vancouver, B.C.....	15 00
7191	" 30.	Wm. P. Billington.....	Mate.....	Victoria, B.C.....	Vancouver, B.C.....	6 00
7192	" 30.	Duncan MacKinnon.....	".....	Vancouver, B.C.....	Vancouver, B.C.....	6 00
7193	" 30.	François J. seph Beaudry.....	".....	Ste. Anne de la Pêrade.....	Quebec, P.Q.....	6 00
7194	" 30.	Asa Howard Myers.....	".....	Halifax, N.S.....	Halifax, N.S.....	6 00
7195	" 30.	George Thomas Smith.....	Master.....	Halifax, N.S.....	Halifax, N.S.....	15 00
7196	" 30.	Michael Kane.....	".....	Halifax, N.S.....	Halifax, N.S.....	15 00
7197	" 30.	Howard Whitman Faulk- ner.....	Mate.....	Halifax, N.S.....	Halifax, N.S.....	6 00
7198	" 30.	William Hurley.....	Master.....	St. John, N.B.....	Yarmouth, N.S.....	15 00
7199	" 30.	John P. Shears.....	Mate.....	St. John, N.B.....	Yarmouth, N.S.....	6 00
7200	" 30.	Percy Byron Belyea.....	Master.....	St. John, N.B.....	Yarmouth, N.S.....	15 00
7201	" 30.	Charles R. Teed.....	".....	Freepont, N.S.....	Yarmouth, N.S.....	15 00
7202	Oct. 9.	Edward Harpin.....	Mate.....	St. Ours, P.Q.....	Montreal, P.Q.....	6 00

LIST of Certificates of Competency issued to Masters and Mates of Coasting and Inland vessels during the twelve months ended March 31, 1914—*Continued.*

No. of Certificate.	Date of Certificate.	Name.	Grade.	Address.	Where Examination was Passed.	Fee.
	1913.					\$ cts.
7203	Oct. 14.	Arthur Deschenes.....	Master.....	Tadousac, P.Q.	Quebec, P.Q.	15 00
7204	" 17.	Harold Hansen.....	"	Vancouver, B.C.	Vancouver, B.C.	15 00
7205	" 21.	Charles A. Mahoney.....	"	Jones Falls, Ont.	Quebec, P.Q.	15 00
7206	" 22.	John Campbell.....	"	New Westminster, B.C.	Vancouver, B.C.	15 00
7207	" 27.	Even Nilson.....	Mate.....	Yarmouth, N.S.	Yarmouth, N.S.	6 00
7208	" 27.	Raymond V. Comeau.....	"	Metaghan, N.S.	Yarmouth, N.S.	6 00
7209	" 27.	Francois Xavier Lachance	Master.....	Quebec, Q.	Quebec, Q.	15 00
7210	" 27.	Joseph Montpetit.....	"	Valleyfield, P.Q.	Montreal, P.Q.	15 00
7211	" 27.	Stanley Allison Hutchinson.	"	Rexton, N.B.	Yarmouth, N.S.	15 00
7212	" 27.	Lemuel Lohnes.....	"	Riverport, N.S.	Halifax, N.S.	15 00
7213	" 27.	Joseph Dechenes.....	Mate.....	Quebec, P.Q.	Quebec, P.Q.	6 00
7214	Nov. 6.	Joseph Houde.....	"	St. Jean Deschailions, P.Q.	Quebec, P.Q.	6 00
7215	" 6.	Alexander Geddes.....	Master.....	Hamilton, Ont.	Montreal, P.Q.	15 00
7216	" 6.	James Dennis Mahoney.....	"	Kingston, Ont.	Montreal, P.Q.	15 00
7217	" 6.	Neil MacLean.....	"	Victoria, B.C.	Victoria, B.C.	15 00
7218	" 6.	John Joseph Moore.....	"	Victoria, B.C.	Victoria, B.C.	15 00
7219	" 6.	Patrick McManus.....	"	Vancouver, B.C.	Vancouver, B.C.	15 00
7220	Nov. 6.	Murray Dryburgh.....	Master.....	West Vancouver, B.C.	Vancouver, B.C.	15 00
7221	" 13.	Turner Ingalls, jr.....	Mate.....	Seal Cove Grand, N.B.	Yarmouth, N.S.	6 00
7222	" 18.	Daniel Lambert.....	Master.....	Victoria, B.C.	Victoria, B.C.	15 00
7223	" 18.	John MacKinnon.....	Mate.....	Proctor, B.C.	Nelson, B.C.	6 00
7224	" 18.	Avard William McCulloch.	Master.....	Pendicton, B.C.	"	15 00
7225	" 18.	William Alexander Tullock.	"	Kingston, Ont.	Quebec, P.Q.	15 00
7226	" 22.	Kenneth Kerr.....	Mate.....	St. John, N.B.	Yarmouth, N.S.	6 00
7227	" 27.	Jonson Ardghar Gilchrist.	Master.....	Vancouver, B.C.	Vancouver, B.C.	15 00
7228	" 27.	Jonson Ardghar Gilchrist.	Mate.....	"	"	6 00
7229	" 27.	Havelock Brundige.....	Master.....	"	"	15 00
7230	" 27.	John Anderson.....	"	Victoria, B.C.	Victoria, B.C.	15 00
7231	" 27.	Frank Gosse.....	"	"	"	15 00
7232	" 28.	Achille Paradis.....	Mate.....	Ste. Luce, P.Q.	Montreal, P.Q.	6 00
7233	Dec. 2.	John Erickson.....	Master.....	Victoria, B.C.	Victoria, B.C.	15 00
7234	" 2.	Vincent George Henry.....	"	Port Dufferin, N.S.	Halifax, N.S.	15 00
7235	" 5.	Lewis Angus Beck.....	"	Westminster, B.C.	Victoria, B.C.	15 00
7236	" 6.	Henry Temple Day.....	Mate.....	Upper Gagetown, N.B.	Yarmouth, N.S.	6 00
7237	" 6.	Theodore Vallis.....	Master.....	St. John, N.B.	"	15 00
7238	" 9.	Arthur Thomas.....	Mate.....	Vancouver, B.C.	Vancouver, B.C.	6 00
7239	" 9.	Joseph Houde.....	Master.....	St. Jean Deschailions, P.Q.	Quebec, P.Q.	15 00
7240	" 9.	James Harold Hiechie.....	"	Chester, N.S.	Halifax, N.S.	15 00
7241	" 15.	David Lloyd Jones.....	"	Kelowna, B.C.	Nelson, B.C.	15 00
7242	" 15.	Alton Ingalls.....	"	New Westminster, B.C.	Victoria, B.C.	15 00
7243	" 15.	Joseph Vezina.....	"	St. Michel, P.Q.	Quebec, P.Q.	15 00
7244	" 15.	Harry Duncan.....	"	Vancouver, B.C.	Vancouver, B.C.	15 00
7245	" 15.	Harry Duncan.....	Mate.....	"	"	6 00
7246	" 17.	Arthur Jefferys.....	Master.....	Brantford, Ont.	Toronto, Ont.	15 00
7247	" 17.	Charles E. Graham.....	Mate.....	Fenelon Falls, Ont.	"	6 00
7248	" 19.	Richard Fleming.....	Master.....	Kingston Junction, Ont.	"	15 00
7249	" 20.	Joshua Gallop.....	Mate.....	Halifax, N.S.	Halifax, N.S.	6 00
7250	" 29.	Charles Mercier.....	Master.....	Rivière Ouelle, P.Q.	Quebec, P.Q.	15 00
7251	" 29.	Donat Lemay.....	"	St. Jean Deschailions, P.Q.	"	15 00
7252	" 29.	Oliva Laroche.....	"	"	"	15 00
7253	Dec. 29.	Jean Benoit Deslauriers.	Master.....	Quebec, P.Q.	Quebec, P.Q.	15 00
7254	" 29.	Louis Gonzague.....	Mate.....	Ste. Luce, P.Q.	"	6 00
7255	" 29.	Robert Orr McLeod.....	Master.....	Pictou, Ont.	Montreal, P.Q.	15 00
7256	" 29.	Hector Larosee.....	"	Verdun, P.Q.	"	15 00
7257	" 29.	Alarie Blanchet.....	Mate.....	Lotbinière, P.Q.	"	6 00
7258	" 29.	Prudent Boivin.....	Master.....	St. Fulgence, P.Q.	"	15 00

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List of Certificates of Competency issued to Masters and Mates of Coasting and Inland Vessels, during the twelve months ended March 31, 1914—*Continued.*

No. of Certificate	Date of Certificate.	Name.	Grade.	Address.	Where Examination was Passed.	Fee.
	1914.					\$ cts.
7259	Dec. 29	Frank Clarence Polley	Master.....	Vancouver, B.C.	Vancouver, B.C.	15 00
7260	" 29	Frank Clarence Polley	Mate.....	"	"	6 00
7261	" 29	George C. Ludlow	"	Leamington, Ont.	Toronto, Ont.	6 00
7262	" 29	Cecil Morrison	"	Midland, Ont.	"	6 00
7263	" 29	John Frederick Rock	"	Warton, Ont.	"	6 00
7264	" 29	Harry J. Carter	"	Fort William, Ont.	"	6 00
7265	" 29	John Daniel Vosper	Master.....	Vancouver, B.C.	Vancouver, B.C.	15 00
7266	" 29	John Daniel Vosper	Mate.....	"	"	6 00
7267	" 29	Charles E. Rush	"	Little Current, Ont.	Toronto, Ont.	6 00
7268	" 29	William Honsberger	Master.....	Toronto, Ont.	"	15 00
7269	" 29	Daniel F. Cornett	"	Owen Sound, Ont.	"	15 00
7270	Jan. 5	Tupper Davidson	Mate.....	Collingwood, Ont.	Collingwood, Ont.	6 00
7271	" 5	Thomas Murphy	"	Elgin, Ont.	Montreal, P.Q.	6 00
7272	" 5	Nelson Stuart Thomas	"	Esquimalt, B.C.	Victoria, B.C.	6 00
7273	" 5	Whitney Kennie	Master.....	South Vancouver, B.C.	Vancouver, B.C.	15 00
7274	" 5	Joseph Henry Glass	"	Sarnia, Ont.	Toronto, Ont.	15 00
7275	" 5	Clifford G. Schlochow	Mate.....	West Toronto, Ont.	"	6 00
7276	" 5	Norman J. Gildner	"	Warton, Ont.	"	6 00
7277	" 5	Wilbert Beatty	Master.....	Midland, Ont.	"	15 00
7278	" 8	Albert Ernest Laking	"	"	Collingwood, Ont.	15 00
7279	" 8	William Sitland	"	Halifax, N.S.	Halifax, N.S.	15 00
7280	" 8	John Allan Ewart	"	Toronto, Ont.	Toronto, Ont.	15 00
7281	" 12	Joseph Napier	"	Collingwood, Ont.	Collingwood, Ont.	15 00
7282	" 12	David Knight Dick	"	Fergus, Ont.	Toronto, Ont.	15 00
7283	" 12	John Blackley	"	Golden, B.C.	"	15 00
7284	" 12	Robert Bruce Angus	Mate.....	Toronto, Ont.	"	6 00
7285	" 12	John Parker	Master.....	Warton, Ont.	"	15 00
7286	" 12	Charles Britton	"	Meaford, Ont.	"	15 00
7287	" 14	Edgar Thibaudeau	Master.....	Portneuf, Que.	Quebec, Que.	15 00
7288	" 14	Frederick F. Foote	"	Fergus, Ont.	Toronto, Ont.	15 00
7289	" 14	Frank A. Garrett	"	Collingwood, Ont.	Collingwood, Ont.	15 00
7290	" 14	Charlie Wilson	Mate.....	"	"	6 00
7291	" 14	Ernest W. Baker	Master.....	Bateau, Ont.	"	15 00
7292	" 14	Wm. Moffatt Davidson	Mate.....	Victoria, B.C.	Victoria, B.C.	6 00
7293	" 14	Hugh Duff	"	Vancouver, B.C.	Vancouver, B.C.	6 00
7294	" 14	Jairus Alexander Maus	"	"	"	6 00
7295	" 14	Cyril Bourgeois	"	Cheticamp, N.S.	Yarmouth, N.S.	6 00
7296	" 14	Melville A. Hornsby	"	Toronto, Ont.	Toronto, Ont.	6 00
7297	" 14	William Dalton	Master.....	Port Dalhousie, Ont.	"	15 00
7298	" 21	James Henry Campbell	"	Gravenhurst, Ont.	Collingwood, Ont.	15 00
7299	" 21	Gilbert Craig Ostrom	"	East Owen Sound, Ont.	"	15 00
7300	" 21	Eldon Walkinshaw	"	Collingwood, Ont.	"	15 00
7301	" 21	Gustaf Hultgren	Mate.....	Windsor, Ont.	Toronto, Ont.	6 00
7302	" 21	Thomas George Honess	Master.....	Victoria, B.C.	Victoria, B.C.	15 00
7303	" 21	Harry Leaney	"	Owen Sound, Ont.	Toronto, Ont.	15 00
7304	" 21	William James Ferguson	Mate.....	Warton, Ont.	"	6 00
7305	" 21	Thomas E. Jones	Master.....	Sault Ste. Marie, Ont.	"	15 00
7306	" 21	David Arthur Williams	"	"	"	15 00
7307	" 21	David Langford	"	Fox Point, Ont.	"	15 00
7308	" 27	Joseph Bishop	"	East Owen Sound, Ont.	"	15 00
7309	" 27	Norman M. Spencer	Mate.....	Oxenden, Ont.	"	6 00
7310	" 27	Alex. B. Wilson	"	Sarnia, Ont.	"	6 00
7311	" 27	Norman Walton	"	Toronto, Ont.	"	6 00
7312	" 27	William Thomas Morgan	"	Salmon Cover, Nfld.	Halifax, N.S.	6 00
7313	" 27	Arthur Wood	Master.....	Liverpool, Eng.	St. John, N.B.	15 00
7314	" 27	Henry John Dunning	"	Southampton, Eng.	"	15 00
7315	" 27	Leonard James Williams	"	New Barking Essex, Eng.	"	15 00
7316	" 27	James Dexter	"	London, Eng.	"	15 00
7317	Feb. 6	Jarrett L. Williams	Mate.....	Vancouver, B.C.	Victoria, B.C.	6 00
7318	" 6	James Cuthbert	Master.....	Cobourg, Ont.	Toronto, Ont.	15 00
7319	" 6	Richard Boyd Gerow	Mate.....	Midland, Ont.	Collingwood, Ont.	6 00
7320	" 6	James M. Preston	Mate.....	Warton, Ont.	Toronto, Ont.	6 00
7321	" 6	Robert Leitch	"	Courtright, Ont.	"	6 00
7322	" 6	William Monat	"	Vancouver, B.C.	Vancouver, B.C.	15 00
7323	" 6	William Brown McCarty	Master.....	"	"	15 00

LIST of Certificates of Competency issued to Masters and Mates of Coasting and Inland Vessels during the twelve months ended March 31, 1914—*Continued.*

No. of Certificate.	Date of Certificate	Name.	Grade.	Address.	Where Examination was Passed.	Fee.
	1914.					\$ cts.
7324	Feb. 6..	R. McDonald Barkhouse	Mate.....	Westport, N.S.....	Yarmouth, N.S....	6 00
7325	" 6..	Erle C. Gibson.....	"	Margaretsville, N.S....	"	6 00
7326	" 6..	Vivian Gray.....	Master.....	Galiano Island, B.C....	Victoria, B.C.....	15 00
7327	" 6..	Thomas Cliffe.....	"	Victoria, B.C.....	"	15 00
7328	" 6..	Joseph Connor.....	"	"	"	15 00
7329	" 6..	James Walker.....	"	"	"	15 00
7330	" 11..	Edward Walker Murphy	"	Midland, Ont.....	Collingwood, Ont..	15 00
7331	" 11..	Harvey L. Weber.....	"	Collingwood, Ont....	"	15 00
7332	" 11..	Harvey L. Weber.....	Mate.....	"	"	6 00
7333	" 11..	Jacob M. Collins.....	"	Vancouver, B.C.....	Victoria, B.C.....	6 00
7334	" 11..	Joseph Theobald Marchand	"	Champlain, Que.....	Montreal, Que....	6 00
7335	" 11..	Dassise Rochon.....	Master.....	Cascades Point, Que..	"	15 00
7336	" 11..	Donald McGillivray....	"	Kingston, Ont.....	"	15 00
7337	" 11..	Summersgill Snoddy....	"	Vancouver, B.C.....	Vancouver, B.C....	15 00
7338	" 11..	Peter McKay.....	Mate.....	Point Edward, Ont....	Toronto, Ont.....	6 00
7339	" 11..	Peter McDonald.....	Master.....	Goderich, Ont.....	"	15 00
7340	" 11..	Peter McDonald.....	Mate.....	"	"	6 00
7341	" 11..	Josep H. Bechard.....	"	Owen Sound, Ont.....	"	6 00
7342	" 11..	Charles B. Kirk.....	"	Lakeport, Ont.....	"	6 00
7343	" 11..	George C. Wilson.....	"	Port Dalhousie, Ont..	"	6 00
7344	" 11..	Cyril William McKim....	"	Hamilton, Ont.....	Collingwood, Ont..	6 00
7345	" 11..	Peter Christianson.....	Master.....	Edmonton, Alta....	Edmonton, Alta....	15 00
7346	" 16..	Herbert J. Brian.....	"	Kingston, Ont.....	Toronto, Ont.....	15 00
7347	" 16..	Calice P. Bourgeois....	"	Halifax, N.S.....	Halifax, N.S.....	15 00
7348	" 16..	Charles A. Webster.....	"	Lions Head, Ont.....	Toronto, Ont.....	15 00
7349	" 16..	Frank B. MacLean.....	Mate.....	Halifax, N.S.....	Halifax, N.S.....	6 00
7350	" 16..	Alfred Raymond.....	"	Pointe au Père, Que..	Quebec, Que.....	6 00
7351	" 16..	Joseph Leblanc.....	"	Kamouraska, Que....	"	6 00
7352	" 16..	Emile Frenette.....	Master.....	Portneuf, Que.....	"	15 00
7353	" 16..	John T. Armstrong.....	Mate.....	Sault Ste. Marie, Ont..	Collingwood, Ont..	6 00
7354	" 16..	Norman Fanning.....	Mate.....	Collingwood, Ont.....	Collingwood, Ont..	6 00
7355	" 16..	Duncan Campbell.....	Master.....	Vancouver, B.C.....	Vancouver, B.C....	15 00
7356	" 16..	Duncan Campbell.....	Mate.....	"	"	6 00
7357	" 16..	Isi ore Thibodeau.....	Master.....	Portneuf, Que.....	Quebec, Que.....	15 00
7358	" 27..	William M. Wallace.....	Master.....	Owen Sound, Ont.....	Collingwood, Ont..	15 00
7359	" 27..	Louis Moreau.....	Mate.....	Penetanguishene, Ont.	"	6 00
7360	" 27..	Joseph Armstrong.....	"	Sault Ste. Marie, Ont.	"	6 00
7361	" 27..	Robert James Morgan....	"	Salmon Cove, Nfld....	Halifax, N.S.....	6 00
7362	" 27..	George Irving.....	Master.....	Dartmouth, N.S.....	"	15 00
7363	" 27..	Vernon Hirtle.....	Mate.....	Halifax, N.S.....	"	6 00
7364	" 27..	Thurlaw W. Bagnell....	"	"	"	6 00
7365	" 27..	Martin Joseph Scanlon..	Master.....	Vancouver, B.C.....	Vancouver, B.C....	15 00
7366	" 27..	Martin Joseph Scanlon..	Mate.....	"	"	6 00
7367	" 27..	John Dempsey.....	"	"	"	6 00
7368	" 27..	Fritjof Edwin Forsbom..	Master.....	"	"	15 00
7369	" 27..	Fritjof Edwin Forsbom..	Mate.....	"	"	6 00
7370	" 27..	Alfred George Tinline....	Master.....	Dunbarton, Ont.....	Toronto, Ont.....	15 00
7371	" 27..	Alfred George Tinline....	Mate.....	"	"	6 00
7372	" 27..	James Godman.....	"	Kingston, Ont.....	"	6 00
7373	" 27..	Frank Bannerman.....	Master.....	Victoria, B.C.....	Victoria, B.C.....	15 00
7374	Mar. 7..	Edward Corcoran.....	Mate.....	St. Catharines, Ont..	Collingwood, Ont..	6 00
7375	" 7..	Albro E. DeMill.....	"	Kingston, Ont.....	"	15 00
7376	" 7..	Mark Edward Needham....	Mate.....	Corunna, Ont.....	"	6 00
7377	" 7..	Robert Henry Pickering..	Master.....	Collingwood, Ont.....	"	15 00
7378	" 7..	John Henry Ferguson....	Mate.....	Warton, Ont.....	"	6 00
7379	" 7..	Morton Charles Griffin..	"	"	"	6 00
7380	" 7..	Charles Fullerton.....	"	Bent River, Ont.....	Toronto, Ont.....	6 00
7381	" 7..	Leslie E. Webb.....	"	Goderich, Ont.....	"	6 00
7382	" 7..	Henry Joseph McSherry..	Master.....	Toronto, Ont.....	"	15 00
7383	" 7..	John A. McDonald.....	Mate.....	Gore Bay, Ont.....	"	6 00
7384	" 7..	William Spooner.....	Master.....	Halifax, N.S.....	Halifax, N.S.....	15 00
7385	" 7..	Byron Getson.....	"	Lahave, N.S.....	"	15 00
7386	" 7..	Clarence A. O'Hara.....	"	Isaac Harbour, N.S....	"	15 00
7387	" 7..	James More.....	Master.....	South Vancouver, B.C.	Vancouver, B.C....	15 00
7388	" 7..	"	"	Vancouver, B.C.....	"	15 00

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LIST of Certificates of Competency issued to Masters and Mates of Coasting and Inland Vessels during the twelve months ended March 31, 1914—*Concluded*.

No. of Certificate.	Date of Certificate.	Name.	Grade.	Address.	Where Examination was Passed.	Fee.
						\$ cts.
7389	Mar. 7.	Rasmus Ulsten.....	Mate.....	Vancouver, B.C.....	Vancouver, B.C.....	6 00
7390	" 7.	Thomas Fowlow.....	".....	Victoria, B.C.....	Victoria, B.C.....	6 00
7391	" 7.	Davis A. Brennen.....	Master.....	Centreville, N.S.....	Yarmouth, N.S.....	15 00
7392	" 7.	John A. Mathews.....	Mate.....	Collingwood, Ont.....	Collingwood, Ont.....	6 00
7393	" 7.	Isaac W. Horton.....	".....	Guysboro, N.S.....	Yarmouth, N.S.....	6 00
7394	" 7.	Lawless F. Brannen.....	Master.....	Clarks Harbour, N.S.....	".....	15 00
7395	" 7.	William J. Baker.....	".....	Halifax, N.S.....	Halifax, N.S.....	15 00
7396	" 23.	Alexander Wilson.....	".....	Collingwood, Ont.....	Collingwood, Ont.....	15 00
7397	" 23.	Josue Cassavi.....	".....	Port Arthur, Ont.....	".....	15 00
7398	" 23.	Josue Cassavi.....	Mate.....	".....	".....	6 06
7399	" 23.	De Los Wilbur Whiteley.....	".....	Sombra, Ont.....	".....	6 00
7400	" 23.	Charles Albert Whiteside.....	".....	Owen Sound, Ont.....	".....	6 00
7401	" 23.	Daniel McLeod.....	".....	Collingwood, Ont.....	".....	6 00
7402	" 23.	Hugh Ross Le Roy.....	".....	Nottawa, Ont.....	".....	6 00
7403	" 23.	Alphonse Blouin.....	".....	St. Jean, Isle d'Orleans.....	Quebec, P.Q.....	6 00
7404	" 23.	Adrien Dubé.....	".....	St. Jean Port Joli, Que.....	".....	6 00
7405	" 23.	Eugène Laroche.....	Master.....	Deschailons, P.Q.....	".....	15 00
7406	" 23.	Joseph Arthur Lemay.....	".....	Portneuf, P.Q.....	".....	15 00
7407	" 23.	Maurice Vézina.....	".....	St. Michel, P.Q.....	".....	15 00
7408	" 23.	Emile Ouellet.....	".....	Isle Verte, P.Q.....	".....	15 00
7409	" 23.	Elie Imbeault.....	".....	Malbaie, P.Q.....	".....	15 00
7410	" 23.	Albert Labadie.....	Mate.....	Bienville, P.Q.....	".....	6 00
7411	" 23.	John J. Flood.....	Master.....	Victoria, B.C.....	Victoria, B.C.....	15 00
7412	" 23.	Percy Drew.....	".....	Apple river, N.S.....	Yarmouth, N.S.....	15 00
7413	" 23.	Ralph E. Welch.....	Mate.....	Westport, N.S.....	".....	6 00
7414	" 23.	Thomas Victor Darling.....	Master.....	Callander, Ont.....	Toronto, Ont.....	15 00
7415	" 23.	John F. O'Hara.....	Mate.....	Isaac Harbour, N.S.....	Halifax, N.S.....	6 00
7416	" 23.	Charles R. Churchill.....	Master.....	Halifax, N.S.....	".....	15 00
7417	" 23.	William D. Pearl.....	".....	Martins Brook, N.S.....	".....	15 00
7418	" 23.	William D. Pearl.....	Mate.....	".....	".....	6 00
7419	" 23.	Ashley Myers.....	".....	Isaac Harbour, N.S.....	".....	6 00
7420	" 23.	Albert Thomas James.....	Mate.....	Vancouver, B.C.....	Vancouver, B.C.....	6 00
7421	" 23.	John Taylor.....	Master.....	".....	".....	15 00
7422	" 23.	John Taylor.....	Mate.....	".....	".....	6 00
7423	" 23.	Elzear Othot.....	Master.....	Quebec, Que.....	Quebec, Que.....	15 00
7424	" 23.	Octave Jules Morin.....	".....	St. Marcel, P.Q.....	".....	15 00
7425	" 23.	Angus Graham.....	Mate.....	Goderich, Ont.....	Toronto, Ont.....	6 00
7426	" 23.	James Devitt.....	".....	Owen Sound, Ont.....	Collingwood, Ont.....	6 00
7427	" 23.	Cyprien Marchand.....	Master.....	Sorel, P.Q.....	Montreal, P.Q.....	15 00
7428	" 23.	Joseph Pierre Dnfour.....	Mate.....	Baie St. Paul, P.Q.....	".....	6 00
7429	" 23.	Walter Jacob Mills.....	".....	Avonmore, Ont.....	".....	6 00
7430	" 23.	Clarence E. Mosher.....	Master.....	Dartmouth, N.S.....	Halifax, N.S.....	15 00
7431	" 23.	Clarence E. Mosher.....	Mate.....	".....	".....	6 00
7432	" 23.	James William Jennex.....	Master.....	Jeddore, N.S.....	".....	15 00
7433	" 23.	Louis Dicks.....	Mate.....	Halifax, N.S.....	".....	6 00
7434	" 23.	Gordon Evans.....	Master.....	Victoria, B.C.....	Victoria, B.C.....	15 00
7435	" 23.	Llewelyn Sheppard.....	".....	".....	".....	15 00
7436	" 23.	Stephen M. Rolfe.....	".....	Alma, N.B.....	St. John, N.B.....	15 00
7437	" 23.	James Albert Bowes.....	".....	Dartmouth, N.S.....	Halifax, N.S.....	15 00
7438	" 23.	Richard Joseph Hickey.....	".....	Victoria, B.C.....	Victoria, B.C.....	15 00
7439	" 28.	Edmond Groulx.....	".....	Beauharnois, P.Q.....	Quebec, P.Q.....	15 00
7440	" 28.	Isaiah McDonald.....	".....	Gabarous, C.B.....	North Sydney, N.S.....	15 00
7441	" 28.	Clarence Theodore Johnson.....	Mate.....	Vancouver, B.C.....	Vancouver, B.C.....	6 00
7442	" 28.	John Wm. Dollar.....	Master.....	Hampstead, N.B.....	St. John, N.B.....	15 00
7443	" 28.	Edward Rowland Smith.....	".....	Fort William.....	Port Arthur, Ont.....	15 00
7444	" 28.	James Garriock.....	".....	Port Arthur, Ont.....	".....	15 00
7445	" 28.	Alexander Fraser.....	Mate.....	Pt. Edward Village, O.....	Toronto, Ont.....	6 00
7446	" 28.	William Edmond Cornett.....	Master.....	Owen Sound, Ont.....	Collingwood, Ont.....	15 00
7447	" 28.	Owen M. Williams.....	Mate.....	Ostrea Lake, N.S.....	Halifax, N.S.....	6 00
7448	" 28.	Arthur Moore.....	".....	Bear River, N.S.....	Yarmouth, N.S.....	6 00
7449	" 28.	St. Clair Cann.....	".....	Westport, N.S.....	".....	6 00
7450	" 28.	George U. Schneisser.....	".....	Lahave, N.S.....	Halifax, N.S.....	6 00
7451	" 28.	Clayton M. Westhaver.....	".....	Martins Brook, N.S.....	".....	6 00

5 GEORGE V., A. 1915

LIST of Certificates of Service issued to Masters and Mates of Coasting and Inland Vessels during the twelve months ended March 31, 1914.

No. of Certificate.	Date of Certificate	Name.	Grade.	Address.	Where Examination was Passed.	Fee.
	1913.					\$ cts.
3415	Oct. 14.	André Evariste St. Pierre	Mate.....	Rimouski, Que.....	Quebec, Que.....	4 00
	1914.					
3416	Feb. 26.	Pierre Pineault.....	Master.....	Rimouski, Que.	Quebec, Que.....	8 00

LIST of Masters' Temporary Certificates issued during the twelve months ended March 31, 1914.

No. of Certificate.	Date of Certificate.	Name.	Grade.	Address.	Where Examination was Passed.	Fee.
	1913.					\$ cts.
45	April 15.	Joseph Deslauriers . . .	Master.....	Quebec, Que.....	Quebec, Que.....	5 00
46	" 15.	Theodore Seaman.....	"	Sauble Falls, Ont.	Collingwood, Ont..	5 00
47	" 15.	William K. Sims.....	"	Sault Ste. Marie, Ont.	"	5 00
48	" 21.	George Finan.	"	Braeside, Ont.....	Montreal, P.Q.	5 00
49	May 9.	George Lindsay	"	Kenora, Ont.....	Kenora, Ont.....	5 00
50	" 9.	Charles Wesley Brooker.	"	"	"	5 00
51	" 9.	Charles McLeod	"	Cumberland, Ont.	Montreal, P.Q....	5 00
52	" 9.	James Jackson	"	Indian, White Horse, Y.T.	"	5 00
53	" 14.	Albert F. Stanton.....	"	Port Stanton, Ont....	Collingwood, Ont.	5 00
54	" 22.	William Cooke.....	"	Grenville, P.Q.	Ottawa, Ont.....	5 00
55	" 27.	William Powles	"	Pictou, Ont.	Pictou, Ont.....	5 00
56	June 2.	Robert H. Johnston.....	"	Port Carling, Ont.	Collingwood, Ont.	5 00
57	" 10.	Telesphore Martin	"	Pointe Fortune, P.Q..	Montreal, P.Q....	5 00
58	July 2.	Albert Allen Jesmer ..	"	Cornwall, Ont.....	"	5 00
59	" 11.	Stanley Horace Buckland	"	Neilsonville, P.Q.....	Quebec, Que	5 00
60	" 28.	John Cameron.....	"	Kingston, Ont.	Montreal, P.Q.	5 00
61	Aug. 11.	William Edwin Owen...	"	Richard's Landing, Ont.	Collingwood, Ont.	5 00
62	" 13.	Henri Carrière	"	Montebello, P.Q.	Montreal, P.Q....	5 00
63	Sept. 29.	Joseph Roy	"	Carillon, P.Q.	"	5 00
64	" 29.	Oscar Wanamaker	"	Lakefield, Ont.	"	5 00
65	" 29.	James Pendergast.....	"	Cornwall, Ont.....	Montreal, P.Q....	5 00
66	Oct. 7.	Simon Cimon	"	Roberval, P.Q.	Quebec, Que.....	5 00
67	" 7.	John T. Inman.....	"	Bonshaw, P.E.I.	Charlottetown, P.E.I.	5 00
68	" 17.	Ole Dahl	"	Banff, Alta.	Kenora, Ont.....	5 00
69	" 17.	John Standly.....	"	"	"	5 00
70	" 18.	James I. Campbell.....	"	Kelowna, B.C.	Nelson, B.C.....	5 00
	1914.					
71	Jan. 8.	Charles Edwin Miller ...	Master.....	Dawson, Y.T.	Dawson, Y.T.	5 00
72	" 21.	William McSeivewright.	"	Vancouver, B.C.	Vancouver, B.C....	5 00
73	Mar. 18.	Alfred Girard	"	St. Fulgence, P.Q.	Montreal, P.Q....	5 00

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APPENDIX No. 10.

LIFE SAVING REPORT FOR 1913-14.

To the Deputy Minister of Marine and Fisheries,
Ottawa, Ont.

SIR,—I have the honour to submit the following report of life saving service for the season 1913-14.

NOVA SCOTIA.

Baker Cove.—There is a volunteer crew at this station. On the 19th May, 1913, crew went to the assistance of the steamer *Gerald Turnbull* which ran ashore on Gannet Rock ledge, and stood by the vessel, but as the crew declined to abandon the ship the life-boat returned to her station.

On May 30, Norwegian ship *Freia* parted her cables and went ashore on Sunday point. Life-boat crew went around by shore with lines to render assistance to crew. All saved.

Bay View.—There is a permanent crew at this station. During the year this boat was called out several times to assist fishing boats in distress, and to search for boats that had been blown out to sea.

On the 9th September, 1913, the schooner *Agnes G. Donahue* went ashore at point Prim and became a total loss. Crew saved by life-boat.

Blanche.—There is a volunteer crew at this station.

On 20th November, 1913, an American fishing schooner ran ashore at the salvages at 3 a.m.; blowing hard. Life-boat went to assistance but found crew had abandoned vessel.

Canso.—Volunteer crew at this station.

June 8, 1913, called out to wreck of schooner *Shamrock*. July 25, 1913, called out to schooner *Arethusa* in distress.

Cheticamp.—There is a permanent crew at this station during the season of navigation.

May 13, 1913, went to assistance of fishing boat in distress. Blowing hard.

August 4, 1913, went to assistance of disabled gasoline boat. Strong wind off shore.

During the month of November, 1913, crew was out four times to assist fishing vessels in distress.

Duncan Cove.—There is a volunteer crew at this station, and during the season of 1913 they rendered assistance to a schooner that was in distress and in danger of becoming a wreck.

Herring Cove.—Volunteer crew at this station. January 24, 1914, this crew was called out to the wreck of the American schooner *Selina* which went ashore at Mauvers beach.

Seal Island.—There is a subsidized volunteer crew at this station. June 9, 1913, called out to wreck of schooner *Maia*, took off crew of twenty men.

Westport.—There is a volunteer crew at this station which uses a subsidized fishing boat. They were called out three times during the season to render assistance to disabled fishing boats. At the wreck of the steamer *Cobequid* the crew patrolled Brier island and, in addition, went in the tug *John L. Cann* and assisted in the salvage of the passengers and crew of the wrecked steamer.

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PRINCE EDWARD ISLAND.

Cascumpeque.—There is a volunteer crew at this station.

May 11, 1913, called out to the assistance of schooner *Loring J. Haskell*.

Charlottetown.—Volunteer crew at this station.

June 12, 1913, called out to the wreck of the schooner *Polar Star*.

October 5, went to the assistance of schooner *Ada Mildred*.

November 1, life-boat was towed out by *Brant* in heavy gale to the assistance of schooner *Flora T*. The boat capsized and was damaged, the *Brant* being forced to return to Charlottetown.

NEW BRUNSWICK.

Little Wood Island.—There is a permanent crew at this station, and during the winter months a large motor sloop is employed. During the season they were called to the assistance of thirty-five disabled fishing boats and schooners, several of which were in great danger and without the assistance of the life-boat crew would probably have been wrecked, with loss of life.

ONTARIO.

Consecon.—There is a volunteer crew at this station.

July 7, 1913, boat responded to a call for assistance from the steamer *Ames*. On arrival at the wreck, a distance of 20 miles from the station, they found the crew had managed to land in one of their own boats.

Goderich.—There is a volunteer crew at this station.

August 8, 1913, the life-boat was called to the assistance of a small boat with two men in it which had capsized out in the lake. One man was rescued and the other was unfortunately drowned. A heavy gale was blowing at the time. After the heavy gale which swept the Great Lakes from the 8th to 11th November, 1913, the crew of this station patrolled the beach looking for bodies of the dead, and rendered every assistance possible. The sympathy of the department is extended to Coxswain McDonald, whose son was one of the victims of the storm.

Long Point.—There is a permanent crew at this station during the season of navigation on the great lakes.

July 7, 1913, crew went to the assistance of the barge *Mary McLaughlin*. The vessel became a total wreck. Crew of five were rescued.

October 21, after a long hard pull the life-boat reached the wreck of the steamer *C. W. Elphicke* which was ashore off the point, and rescued the crew of 18.

Point Pelee.—There is a permanent crew at this station during the season of navigation. No casualties were reported from this station until the fall of 1913, when the life-boat was called out four times to vessels in distress.

Toronto.—Permanent crew during the season of navigation. The work of the crew at this station during the past season has been, on the whole, very satisfactory. It would be too much to enumerate here the number of times they have been called out to render assistance to persons and boats in distress. Canoes, skiffs, power-boats and sailing yachts on the bay and in the harbour were assisted from time to time as occasion demanded.

On the 20th October, 1913, the crew of the barge *Sligo* was taken off the vessel by the life-saving crew in the surf boat in a heavy gale of wind.

BRITISH COLUMBIA.

Banfield.—Permanent crew at this station all the year round.

April 10, 1913, called out to assistance of *Inlet Queen*. Vessel was lost, but crew saved.

May 3, called out to assistance of C.P.R. steamer *Tees*, ashore in Barclay sound. Vessel was eventually released.

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December 6, called out to the assistance of gasoline boat ashore in Barclay sound. Life-boat crew got the boat off and towed her to Banfield creek.

Clayoquot.—Permanent crew during winter months.

November 26, 1913, went to the rescue of a man whose boat was in danger.

January 15, 1914, rescued two men when boat capsized in a gale of wind. Also rescued another man who was being blown out to sea.

Ucluelet.—Permanent crew.

Boat called out twice in November to assist vessels in distress. New motor life-boat now in commission at this station.

HENRY THOMPSON, R.N.

General Supt. of the Life-saving Service.

REWARDS, SAVINGS LIFE, 1913-14.

	\$	cts.	\$	cts.
General account.....			3,767	19
<i>Nova Scotia:</i>				
Bakers Cove.....		431 80		
Bay View.....	18,129	24		
Blanche.....		343 76		
Brier Island.....		288 36		
Canso.....		363 00		
Cheticamp.....	4,628	34		
Clark Harbour.....		375 96		
Devil Island.....	4,512	52		
Duncan Cove.....	1,090	35		
Herring Cove.....		578 47		
Pictou.....		377 08		
Port Mouton.....		282 63		
Sable Island.....	6,694	83		
Scattarie.....		375 74		
Seal Island.....	1,096	63		
St. Paul Island.....	4,503	72		
Whitehead.....		404 34		
<i>Prince Edward Island:</i>			44,476	77
Alberton.....		378 03		
Cascumpeque.....		318 22		
Charlottetown.....		712 07		
Priest Pond.....		470 29		
Souris.....		698 97		
<i>New Brunswick:</i>			2,577	58
Cape Tormentine.....		289 00		
Esquimaux.....		305 70		
Little Wood Island.....		7,366 40		
Richibucto.....		3,485 36		
<i>Quebec:</i>			11,446	46
Entry Island.....		266 51		
<i>Ontario:</i>			266	51
Cobourg.....		271 00		
Collingwood.....		280 80		
Goderich.....		420 65		
Kincardine.....		346 00		
Consecon.....		313 33		
Long Point.....		6,861 90		
Pelee.....		4,862 65		
Port Hope.....		412 50		
Port Stanley.....		719 45		
Southampton.....		393 30		
Toronto Island.....	18,139	09		
<i>British Columbia:</i>			33,020	67
Banfield.....	12,525	83		
Clayoquot.....	5,362	48		
Cluoose.....		90 00		
Tassiat.....		69 40		
Ucluelet.....	24,531	58		
Victoria.....		36 00		
			42,615	29
			138,170	47

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LIFE-SAVING STATIONS maintained

Number.	Stations.	Established.	Coxswain.	Crew.	Coxswain's salary. Per annum.	Pay of Crew.
1	<i>New Brunswick</i> — Little Wood Island	1910	Harry Harvey....	8	\$	Coxswain \$60 per month, crew \$35 per month, 75c. a day board.
2	Richibucto.....	1907	Albert Long ...	8		Coxswain \$60 per month, crew \$35 per month, 50c. a day board during the season.
3	Point Escuminac.....	1908	E. F. Flieger....	7	75	\$2.00 per drill.....
4	Cape Tormentine.....	1912	I. Allen....	7	75	"
5	<i>Nova Scotia</i> — Baker's Cove.	1886	R. L. Baker.....	7	75	"
6	Blanche	1889	Edgar H. Swaine..	7	75	"
7	Clark Harbour.....	1900	W. D. Attwood...	7	75	"
8	Canso		J. J. Berrigan....	7	75	"
9	Devil's Island.....	1885	B. H. Henneberry	7	75	"
10	Duncan Cove.....	1886	J. W. Holland....	7	75	"
11	Herring Cove.....	1885	Edw. V. Dempsey	7	75	"
12	Pictou Island.....	1889	Duncan McCallum	7	75	"
13	Port Mouton.....	1889	Walter Cooke....	7	75	"
14	Scattarie	1885	Jas. Nearing ..	7	75	"
15	Seal Island.	1880	Smith G. Penney..	7	250	\$100 per annum.
16	St. Paul Island.....	1885	Supt. Humane Establishment.	3		\$300 each per annum.
17	Whitehead.....	1890	John Phalen	7	75	\$2 per drill and extra when saving life.
18	Sable Island.....	1885	{ Douglas Henne- berry. Jas. Ritcey.....	{	{ 250 250 }	Paid as island staff.
19	Cheticamp.....	1911	M. Maillett.	7		Coxswain \$60, eng. \$50, crew \$35 during season of navigation.
20	Bay View (Digby Co.)....	1911	J. W. Hayden....	7		Coxswain \$60 per mon., eng. \$50, crew \$35 and \$15 a month board.
21	<i>Prince Edward Island</i> — Priest Pond.	1909	Chas. Campbell...	12	75	\$2 per drill and extra when saving life.
22	Charlottetown	1907	E. White.....	6	75	\$2 per drill and extra when saving life.
23	Souris.	1907	Pius Cheverie..	7	75	\$2 per drill and extra when saving life.
24	Alberton	1907	Gordon Bennett..	12	75	\$2 per drill and extra when saving life.
25	Cascumpeque.		Joshua Hutt	8	75	\$2 per drill and extra when saving life.

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by the Dominion Government.

Description of Boat.	Cost.	Where Built.	Equipment.	Remarks.
	\$			
Beebe-McLellan twin screw, motor boat.	2,500	Sorel, P.Q.	Full regulation.	Station built 1911 and telephone communications established between Grand Rock, Little Wood Island and Seal Cove.
Race point surf-boat, 24 feet long.	225	"	" ..	New dwelling house in commission during season of navigation.
Beebe-McLellan self-bailing.	250	"	" ..	Boathouse to be built.
" "	250	"	" ..	
Dobbin's pattern self-righting, 23 feet long.	575	Dartmouth, N.S.	" ..	Iron rails laid in 1900.
Beebe-McLellan surf-boat, self-bailing, 25 feet long.	250	" ..	" ..	New boat, 1901.
Beebe-McLellan self-bailing, 25 feet long, low ends.	250	" ..	" ..	Boathouse completed June 7, 1909.
Dobbin's pattern, surf boat, self-bailing, 25 feet long.	575	" ..	" ..	Lyle gun at this station.
Beebe-McLellan surf-boat, self-bailing, 25 feet long.	250	Shelburne, N.S..	" ..	Lyle gun at this station and new boat in 1903.
" " ..	250	" ..	" ..	
Dobbin's pattern, self-righting and bailing, 25 feet long.	575	Dartmouth, N.S.	" ..	Telephone communication established 1913.
" " ..	575	" ..	" ..	
Beebe-McLellan surf-boat, self-bailing, 25 feet long.	250	Shelburne, N.S..	" ..	New boat in 1903.
Beebe-McLellan boat on east side.	240	" ..	" ..	" "
Beebe-McLellan boat on west side	240	Halifax, N.S. ...	" ..	" "
Beebe-McLellan self-bailing, 25 feet long, low ends.	250	Shelburne, N.S..	" ..	Lyle gun here since 1903.
Dobbin's pattern, surf-boat, self-bailing, 25 feet long.	575	Dartmouth, N.S.	" ..	
Two Dobbin's pattern, self-righting and bailing, and one Beebe-McLellan self-bailing.	1,100	Halifax, N.S. ...	" ..	Lyle gun and rocket apparatus at this station. Coxswain under control of Supt. of Humane Establishment.
Beebe-McLellan twin screw, motor boat.	2,500	Sorel, Q.	" ..	New station with lookout tower and telephone communication has been completed.
36 feet, self-bailing, self-righting power boat.	9,500	Baycenne, N.J. ..	" ..	
Board of Trade rocket apparatus.		England	" ..	
Beebe-McLellan self-bailing.	225	Shelburne, N.S..	" ..	
" "	225	" ..	" ..	
" "		" ..	" ..	
Board of Trade rocket apparatus.		England.	" ..	

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LIFE SAVING STATIONS maintained by

Number.	Stations.	Established.	Coxswain.	Crew.	Coxswain's salary. Per annum.	Pay of Crew.
<i>British Columbia—</i>						
26	Banfield	{ 1909 1907 }	Geo. Murray....	11	.....	Coxswain \$110 per month, eng. \$75, crew \$65 per month, 70c. for board.
27	Ucluelet	1908	W. L. Thompson..	9	.....	Coxswain \$85 per month, \$65 per month for men during season and 65c. board.
28	Tassiat.....	1907	W. Kennedy.....	1	60	Patrol.....
29	Clayoquot.....	1908	A. Arnet	8	85	\$65 per month when employed, 70c per day board.
<i>Ontario—Great Lakes—</i>						
30	Cobourg	1882	D. Rooney.	6	75	\$2 per drill and extra when saving life.
31	Collingwood	1885	G. F. Watts.....	7	75	" " " ..
32	Goderich.....	1886	Malc. McDonald..	7	75	" " " ..
33	Kincardine.....	1903	Thos. McGaw	7	75	" " " ..
34	Long Point	1902	Jas. Smith.....	9	75	1st April to 15th Dec., cox. \$60 per month, crew \$45 per month, 75c. per day board.
35	Point Pelee.	1900	L. Wilkinson.	7	75	1st April to 15 Dec., cox. \$60 per month, crew \$50 per month, 75c per day board.
36	Port Hope.....	1889	John McMahon...	7	75	" " " ..
37	Port Stanley.. ..	1885	J. R. Moore.....	7	75	" " " ..
38	Toronto Island.....	1883	Frank Ward.....	11	75	Cap. \$100 per month, mate \$80, 2nd mate \$70 and crew \$65, and 75c. per day, board allowance, during season of navigation.
39	Consecon.. ..	1898	R. Bedford.....	7	75	\$2 per drill.....
40	Southampton.....	1907	Hector McLeod...	7	75	"

NOTE—There are several other places in Canada, not regularly organized, which receive support from N.S., Cape Tormentine, N.B., and Wellington on Lake Ontario. There is also a life-saving station at

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the Government.—*Concluded.*

Description of Boat.	Cost.	Where built.	Equipment.	Remarks.
	\$			
Self-righting, self-bailing 36 ft. power boat.	1,184 52	Bayonne City, U.S.A.	Full regulation..	New motor boat and Lyle gun in combination with Pachena Bay.
Doherty's Improved Beebe-McLellan, 25 feet long.	575	Vancouver Shipyard Co., Vancouver, B.C.	" ..	Placed at Pachena Bay.
Doherty's Improved Beebe-McLellan, 25 feet long.	10,500	M. Defoe, Vancouver.	Full regulation..	Boat completed 1913.
Dobbin's pattern, self-righting and bailing.	750	Goderich, Ont..	" ..	
Beebe-McLellan self-bailing surf-boat.	375	Collingwood, O..	" ..	New boat in 1896.
Surf-boat.....	330	" ..	" ..	New boat in 1892.
Beebe-McLellan self-bailing, surf-boat.	350	" ..	" ..	New boat in 1903.
Surf-boat.....	500	" ..	" ..	Station moved to east end of Point. Telephone communication established 1913.
"	350	" ..	" ..	A tramway has been constructed at this station.
Dobbin's pattern, self-righting and bailing.	620	Goderich, Ont...	" ..	
Beebe-McLellan surf-boat, self-bailing, 25 feet long.	350	Collingwood, O..	" ..	
Dobbin's pattern, self-righting and bailing.	600	Goderich, Ont..	" ..	2 motor boats one 25 miles an hour, the other one 24 miles an hour, have been placed here. The station was moved to Ward's Island and plans are being prepared for a sub station at Hanlan's Point.
" " "	750	" ..	" ..	Removed from Wellington in 1893.
Beebe-McLellan surf-boat, self-bailing.	330	Collingwood, O..	" ..	

the Dominion Government where there is a life-saving service of more or less importance, such as Halifax Victoria, B.C., maintained by the Victoria Life Saving Association.

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SIGNAL STATION, CITADEL, HALIFAX, N.S.

RECORD OF SHIPPING, as per record folio, from April 1, 1913, to March 31, 1914.

R—Reported. A—Arrived. P—Passed.

Months.	Men of War, British.			Men of War, Foreign.			Steamers, 1st Class.			Steamers, 2nd Class.			Ships, Barges and Barquentines.			Brigs and Brig- antines.			Schooners, 3 mast- er bearing private signals.			Monthly Totals.		
	R.	A.	P.	R.	A.	P.	R.	A.	P.	R.	A.	P.	R.	A.	P.	R.	A.	P.	R.	A.	P.	R.	A.	P.
1913-1914.																								
April				1	1		90	90		37	37		1	1					3	3		132	132	
May	3	3		3	3		55	55		49	49								7	7		117	117	
June				3	3		70	69	1	55	55		1	1					7	7		136	135	1
July				1	1		72	72		50	50		1	1					13	13		137	137	
August				1	1		65	65		61	61		1	1					8	8		136	136	
September ..	1	1		1	1		65	64	1	51	51		2	2					8	8		128	127	1
October							57	57		37	37		1	1					10	10		105	105	
November ..	1	1					52	52		47	47		2	2					3	3		105	105	
December ..							78	78		46	46								7	7		131	131	
January							65	64	1	30	30								3	3		98	97	1
February				1	1		65	64	1	18	18								2	2		86	85	1
March				2	2		74	73	1	38	38		1	1					4	4		119	118	1
	5	5		13	13		808	803		519	519		10	10					75	75		1,30	1,425	5

Total vessels reported 1,430

" arrived 1,425

" passed 5

L. G. VAN TUYL, CAPT. R.C.E.,

Supt. of Signals.

APPENDIX No. 11.

SABLE ISLAND.

SIR.—I beg to submit the following report for the period from May 22, 1913, to February 28, 1914.

On May 22 of last year I landed with my family on the above named island, and assumed the duties of superintendent.

During the first week after our arrival, in company with R. J. Boutilier, ex-superintendent, of the island, I visited all the stations and began my duties in a regular way.

The season has been very uneventful, no known wrecks have occurred except the wreckage found strewn along the shores of the island during the first week of January, which is generally believed to be all that remains of the schooner *Iona W.* of Mahone Bay.

During the month of August some sixty or seventy deals landed on the island, most likely washed from some deck-loaded vessel. They were hauled up and used for building and repairs.

REPAIRS.

At main station we shingled part of roof of dwelling, greater part of horse-barn roof, put new water spouting around it, and sundry other repairs. Temporary repairs to cow barn.

New ladders reaching from ground to wind vane and anemometer some 35 feet, and built a small icehouse 16 feet by 12 feet, which is now full of ice.

WEST LIGHT.

Shingled and put in good repair an outhouse used as a dairy and storehouse, much needed; made storm windows and new water-spouting for dwelling. Also storm windows for No. 2 and 4 stations.

In July we built a new horse pound at No. 3 station.

Those, with a number of minor repairs, conclude the repair list.

PAINTED.

Dwelling at main station, lime-washed and trimmed all buildings around the dwelling.

All the other stations are badly in need of paint and repairs, and some of them very extensive.

Beach apparatus in fairly good condition.

POPULATION.

No. 1 station.	14
Supt Blakney and family (7); Carpenter, A. Gill; cook, W. Gill; boatman, W. Mott; boatman, F. Blank; boatman, C. Cleary, boatman, D. Kennedy; boatman, C. Driscoll.	
No. 2 station.	5
Keeper and cockswain, D. Hennebery and family.	
No. 3 station.	5
Keeper, S. Glazebrook and family (4); assistant, W. Cleary.	
No. 4 station.	7
Keeper, J. Ritcey and family (5); assistant, A. Whare; assistant, S. Deyoung.	

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No. 13 station.	5
Keeper, A. Northrup and family.	
West light.	7
Keeper, J. Edwards and family (6) ; assistant, J. Edwards, jr.	
East light.	8
Keeper, J. Greg'ore and family (7) ; assistant, H. Naugle	
Marconi wireless station.	5
Chief operator, D. Ross; assistant operator, H. Coad; assistant operator, G. Cope; assistant operator, R. Adendorff; cook, R. Cleary.	
Total.	56

A type writing machine would be a very useful thing, as well as handy; am doing this work with Mr. Ross's, the chief operator's machine.

BOATS ON HAND.

Main station: One life-boat, two surf-boats, two dories.
No. 3 station: One life-boat, one surf boat.
No. 4 station: Two life-boats, one surf boat, one dory.

All in fairly good condition except surf boat No. 4, for which there is a new one ordered.

Farming was executed as usual. Crops were about an average judging from past records, except potatoes, which were poor.

Stock killed: Four oxen, weighing 2,860 pounds; thirteen hogs, weighing 2,070 pounds.
Stock on hand: Sixty horned cattle, forty trained horses, two colts, six hogs.

Patrolled in thick weather eighteen times.

Shipped: Thirty-three horses, thirty-five barrels cranberries, an old lantern from West light, and a number of salt hides.

Number of boat drills: Nine.

Number of drills with beach apparatus: Eight.

I would like to recommend that a motor dory be supplied for the island, for use in cases where we have long distances to go, such as to the detached bar, where we had to go during the winter, or even further, to the supposed new island which may be there yet, and also in cases of a heavy surf with wind on the shore, to pull life-boat or surf boat out in an emergency. For general work it would be a very useful boat, a good investment.

The telephones are in poor condition.

I am your obedient servant,

J. C. BLAKENY,

Superintendent Sable Island.

APPENDIX No. 12.

BOARD OF STEAMBOAT INSPECTION, CHAIRMAN'S REPORT.

OTTAWA, October 7, 1914.

To the Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit, as follows, the annual report of the Steamboat Inspection Service, for the fiscal year ending March 31, 1914.

STAFF.

In view of the increased work at Halifax, and that an officer might be available for the inspection of ships' tackle, Mr. Dennis J. Murray was appointed inspector of boilers and machinery at Halifax, with instructions that his duties should cover the inspection of ships' tackle. Mr. Murray was appointed to this position on November 1, 1913.

In connection with the International Conference on Safety of Life at Sea, Mr. McDonnell, assistant chairman, left Ottawa for London on the 28th October, 1913, to act in the capacity of expert consultant to yourself the delegate from Canada. Mr. McDonnell returned to Ottawa on January 20, 1914.

During the year, consideration was given to the amendment of the life-saving appliances rules, and a draft set of rules was prepared and issued to shipowners and others interested, with a view to having their criticisms thereon.

Considerable work was also done by the staff in connection with the revision of Parts VII and IX of the Canada Shipping Act.

BOARD MEETINGS.

During the year various board meetings have been held to discuss questions which have arisen, principally in connection with interpretation of the rules governing the inspection of boilers and machinery.

CASUALTIES.

The following are the casualties reported from the several divisions during the year ending March 31, 1914.

Nova Scotia Division.—On November 1, 1913, the ss. *Bridgeport* left Sydney, N.S., for Montreal, with a cargo of coal, and never reported.

On January 13, 1914, the ss. *Cobequid* stranded on Trinity ledge, bay of Fundy, and became a total loss. No lives lost.

On March 17, 1914, the ss. *City of Sydney* struck off Shag rock, N.S., and became a total loss. No lives lost.

New Brunswick Division.—On December 7, 1913, the ss. *Imperator* was destroyed by fire, while at her dock at Bathurst, N.B.

Quebec Division.—On July 28, 1913, the ss. *Lady of Gaspe*, of Quebec, while on her trip from Montreal to Gaspe, collided with the steamer *Crown of Cordova* sustaining considerable damage to her hull. She was immediately beached to prevent sinking and hauled off the next day and towed to Quebec for repairs. No fatalities.

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Sorel Division.—On January 21, 1914, the ferry steamer *Glacial*, of Montreal, while lying at her wharf at Three Rivers, was crushed by the ice and sank in about 40 feet of water. No fatalities.

Montreal Division.—On June 7, 1913, the ss. *Agnes*, of Montreal, 29 tons gross tonnage, while lying at the wharf at Buckingham, Que., was totally destroyed by fire. Cause of fire unknown.

On March 24, 1914, the ss. *City of Montreal*, of Toronto, 1,554 tons gross tonnage, while lying in winter quarters in the canal at Montreal, caught fire and was partially burnt. The hull and machinery have since been repaired, and the steamer is now running as a freight boat. Cause of fire unknown.

Kingston Division.—On October 7, 1913, the ss. *John Duncan*, while proceeding down lake Ontario—coal laden—broke her outside stern bearing, allowing the tail shaft to drop, thereby shaking the stern tube loose and breaking the gland on the stern pipe, and had to be beached at South Bay point, on the morning of October 8. On examination in dry dock, found three blades broken off the propeller.

Toronto Division.—On June 29, 1913, the tug *W. H. Price*, of Collingwood, was totally destroyed by fire at Parry Sound.

On August 8, 1913, the passenger steamer *John Lee, Sr.*, of Wallaceburg, was partially destroyed by fire at Port McNicol.

On August 30, 1913, the tug *Gale* (formerly *Active*, of Amherstburg), was totally destroyed by fire at Pelee island.

During a storm which prevailed on lakes Huron and Superior, November 9 and 10, 1913, the ss. *James Carruthers*, of Toronto, foundered on lake Huron, the ss. *Regina* and *Wexford*, registered in Great Britain, also foundered on lake Huron in the same storm, the entire crews of the three steamers (numbering about 50 persons) were drowned.

At the same time the ss. *Acadian*, of Glasgow, G.B., was driven ashore near North point, Saginaw bay, and the *Turret Chief* went ashore on Keweenaw point, Lake Superior. The *Acadian* was released, and repaired at Detroit, Mich., the *Turret Chief* was abandoned by the owners to the underwriters, and is still in the same position.

Collingwood Division.—On May 2, 1913, the ss. *John Torrent*, of Sault Ste. Marie, was burnt at Richards Landing, St. Mary river. Cause of fire unknown. No casualties.

On August 21, 1913, the ss. *Clara Hickler*, of Sault Ste. Marie, foundered off Point Iroquois, Whitefish bay, and is not yet regarded as a total loss. No casualties.

On September 5, 1913, the ss. *Victoria K*, of Goderich, was in collision with the steamer *Germanic* of Collingwood, off the harbour of Blind River, which resulted in the drowning of one man and the sinking of the ss. *Victoria K*, which steamer has since been raised and repaired.

On October 7, 1913, the ss. *Aggie B. Reid*, of Sault Ste. Marie, was burnt, and sank between Thessalon and Cockburn island, North channel. Fire was caused by the upsetting of a can of kerosene oil.

On November 8, 1913, the ss. *Leafield*, of Newcastle, G.B., is believed to have foundered off Keweenaw point, Lake Superior, which resulted in the loss of all hands, supposed to be twenty in number.

Port Arthur Division.—On January 1, 1914, the tug *Sarnia*, of Port Arthur, while lying at the Subway dock at Fort William, had the upper works gutted by fire. Neither the hull nor the machinery was damaged; cause of fire unknown.

Vancouver Division.—On May 9, 1913, about 2 a.m., the freight steamer *Ophir*, owned by the Lincoln Steamship Company, Limited, while at the Brunswick cannery, Canoe Pass, B.C., took fire in the quarters occupied by the crew, six of whom were suffocated while asleep. The hull was totally destroyed, boiler and machinery afterwards salvaged. Cause of fire unknown.

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On July 13, 1913, the gasoline passenger vessel *Christella* owned by the Inland Transportation Company, Limited, of Vancouver, B.C., caught fire while anchored off Deadman's island, Vancouver, in charge of a watchman, and was burned to the water's edge, becoming a total loss. Cause of fire unknown. No lives were lost.

On February 26, 1914, the tug *M. T. Co. No. 2*, owned by the Metropole Transportation Company, Limited, of Vancouver, B.C., while at Port Moody, caught fire in the engine room. The fire getting beyond control, the vessel had to be towed out to deep water where she burned to the water's edge and sank, becoming a total loss. No lives were lost.

On February 3, 1914, the steamer *Vadso*, owned by the Boscowitz Steamship Company, Limited, of Victoria, B.C., when off the Milor peninsula, struck an uncharted rock and foundered in deep water about twenty minutes after striking. No lives were lost.

Victoria Division.—On April 13, 1913, the ss. *Princess Sophia*, while on a voyage from Skagway to Victoria, stranded on Sentinel reef, situated at the southern end of Lynn canal, Alaska, and sustained considerable damage to stem and bow plating, etc., filling forepeak and forward ballast tanks with water. At high water, the same day, the vessel floated and proceeded to Victoria. Extensive repairs were effected on the British Columbia Marine Railway's slip, on the completion of which the vessel returned to Victoria.

On May 2, 1913, the ss. *Prince Albert*, entering Port Simpson, grounded on Alexander reef at 3.20 a.m., receiving considerable damage to hull plating, forward to amidships, lifting floors in bottom ballast tank. After discharging 30 tons of cargo, the vessel refloated at 3.40 a.m. the following day, and proceeded to Victoria. Repairs were carried out by the British Columbia Marine Railway Company at Esquimalt.

On June 21, 1913, the ss. *Protective*, whilst entering Brentwood bay, Saanich inlet, going slow, grounded on rock and pivoted on keel 15 feet from stern post. With the falling tide the vessel listed and gradually went over on port side to an angle of 80° and remained in that position until 7 p.m. the following day, when with the assistance of the salvage steamer *Salvor*, she was floated; and having sustained much damage to hull planking she was towed to Victoria and placed on the Victoria Machinery Depot's slip for repairs.

On August 30, 1913, the ss. *Trader*, while on a voyage from Victoria to New Westminster, broke the L. P. cross-head and cylinder cover. The vessel returned to Victoria, where repairs were effected, after which she proceeded on her voyage.

On October 25, 1913, at 4.30 a.m., the Canadian Government tug *Point Hope* collided in Victoria harbour off Shoal point with the United States steamer *Dispatch*. As a result, the hull of the *Point Hope* was seriously damaged above the water line, and damage of a minor extent to steam connections in the engine room was sustained. The vessel was hauled out on Turpel's ways and repaired.

On November 4, 1913, the ss. *Skookum*, proceeding from Westbank to Penticton, and towing a scow loaded with cement, collided with car barges which were being pushed ahead of the Canadian Pacific Railway tug *Castlegar*, completely wrecking the superstructure of the *Skookum*, and causing loss of equipment and damage to hull, above water line. Two of the crew suffered slight injuries. The vessel was hauled out for repairs at Naramatta, the upper works being entirely renewed, and extensive repairs effected to hull.

On December 2, 1913, the ss. *Prince Albert*, when leaving the port of Jedway, grounded on hard bottom, sustaining damage to stern post. Repairs were carried out on the "ways" of the British Columbia Marine Railway Co. at Esquimalt, B.C.

On December 20, 1913, the ss. *Prince George* stranded at the entrance to Vancouver narrows during a dense fog, sustaining considerable damage to bottom at No.

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1 hold. The vessel, after being aground for $3\frac{1}{2}$ hours, floated and proceeded to Victoria. Permanent repairs were effected by the British Marine Railway Company on the Government dry dock, Esquimalt.

On January 25, 1914, at 10.28 a.m., the ss. *Princess Sophia*, on a voyage from Skagway, Alaska, to Victoria, with freight and passengers, stranded on a point in Johnson strait, $1\frac{1}{2}$ mile east of Port Neville, sustaining considerable damage to bottom and forefoot. At 2 a.m. the following day the vessel was floated and taken to Port Harvey for temporary repairs, on completion of which she steamed to Victoria. Permanent repairs were carried out on the ways of the Victoria Machinery Depot.

On March 2, 1914, ss. *Prince John*, whilst making a landing at Swanson bay, collided with the Canadian Government steamer *Newington*, which was lying at the wharf, doing damage to several plates on the starboard quarter of the *Newington*. The latter proceeded to Victoria and was repaired at the Government dockyard, Esquimalt.

On March 21, 1914, the ss. *British Empire*, while entering North passage, Finlayson channel, collided with a rock on the east side of Boat bluff, on the south end of Sarah island, on account of which she sustained considerable damage to the bow under water line. The vessel afterwards proceeded to Vancouver, where permanent repairs were carried out.

I would respectfully call your attention to the appendix to this report, published separately, in which will be found tables as follows, for the fiscal year ended March 31, 1914:—

(1) Steamships inspected, with their gross tonnage, and with the number of passengers they were certified for, the date of expiry of certificate, and trade and route for which they were certified.

(2) Steamships not inspected, with their gross tonnage, the trade in which they would be employed, and reason for not being inspected.

(3) Steamships added to the Dominion, with particulars as to their tonnage, power, etc.

(4) Steamships lost, broken up or otherwise taken out of commission, with gross tonnage, reason of removal from commission, etc.

(5) Certificates of competency granted to engineers, with the grade of certificate issued, etc.

I have the honour to be, sir

Your obedient servant,

T. R. FERGUSON,

Chairman.

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TABLE showing the Number of Inspections made, Fees collected, etc., during the Year ending March 31, 1914.

Division.	NUMBER OF INSPECTIONS MADE, WITH GROSS TONNAGE OF VESSELS INSPECTED.			Number of Vessels not Inspected with Gross Tonnage.		Total Number of Vessels subject to Inspection when in Commission, with Gross Tonnage.		Number of Vessels added to the Dominion with Gross Tonnage.		Number of Vessels Lost, Broken up or destroyed, with Gross Tonnage.	Fees collected by Inspectors.		
	Vessels Registered or owned in the Dominion.		Gross Tonnage.	No.	Gross Tonnage.	No.	Gross Tonnage.	No.	Gross Tonnage.	No.	Gross Tonnage.	On account of Inspections.	On account of Examinations of Engineers.
	No.	Gross Tonnage.										\$	cts.
Nova Scotia.....	190	67,554	56,217	21	26	1,343	237	125,114	8	5,510	2,567	1,466	64
New Brunswick.....	154	21,109	26,444	16	31	7,942	201	55,495	13	3,209	449	602	80
Quebec.....	93	22,317	6,825	5	15	778	113	29,930	8	3,077	153	.....	.....
Sorel.....	116	42,841	3,821	1	14	1,709	131	48,071	21	9,086	3,097	.....	.....
Montreal.....	195	30,776	10,533	4	27	770	226	42,079	11	6,067	.....	.....	.....
Kingston.....	161	38,236	9,030	21	14	2,087	196	49,353	9	6,234	310	.....	.....
Toronto.....	332	166,252	73,339	62	46	2,795	440	242,386	20	10,221	80	.....	.....
Collingwood.....	122	36,195	10,499	6	29	3,476	157	50,170	6	14,901	8,083	138	40
Port Arthur.....	93	50,089	18,522	11	18	1,183	122	69,694	9	15,929	106	.....	.....
Manitoba and N.W. Provinces.....	63	7,976	.....	.....	43	2,302	111	10,278	5	644	452	45	68
Vancouver and Yukon.....	256	51,711	7,969	11	48	5,186	315	64,866	22	5,971	5,534	270	32
Victoria.....	146	69,030	29,515	27	19	12,236	192	110,781	19	4,439	864	805	12
Totals.....	1,921	604,036	252,414	185	335	41,757	2,441	898,207	151	54,928	23,463	3,328	96
													1,869 00

APPENDIX No. 13.

HARBOUR COMMISSIONERS REPORTS OF MONTREAL, QUEBEC,
TORONTO, THREE RIVERS, NORTH SYDNEY, PICTOU AND
BELLEVILLE.

ANNUAL REPORT OF THE HARBOUR COMMISSIONERS OF MONTREAL FOR THE YEAR 1913.

MONTREAL, February 20, 1914.

To Hon. J. D. HAZEN, K.C., M.P.,
Minister of Marine and Fisheries,
Ottawa, Ont.

SIR,—In compliance with section 51 of the Commissioners' Act, 57-8 Victoria, chapter 48, the Harbour Commissioners of Montreal herewith respectfully submit their annual report of operations for the year ending December 31, 1913, embracing a full account of all moneys by them received and disbursed, and describing the improvements made or under way.

We have the honour to be, sir,

Yours very respectfully,

W. G. ROSS, *President.*

F. ROBERTSON,

A. E. LABELLE,

Harbour Commissioners.

HARBOUR COMMISSION OF MONTREAL, 1913.

The present board of harbour commissioners assumed office on the 1st January, 1913, and during the first few months had many problems to study and a programme of development and construction work in progress to consider, demands from the shipping companies for berths which were not available, for railway traffic which could not be accommodated, and they were deluged with urgent appeals from the grain trade and grain commission for more facilities for the storage and handling of grain.

The work of developing and improving the harbour facilities has been pushed with all the energy at command, under the stimulus, not only of the normal increase of the business of the port, but especially in the endeavour to provide facilities for steamship lines and others desiring to establish business at the port of Montreal.

An outline of the work done is summarized below:—

REORGANIZATION OF ACCOUNTING DEPARTMENT.

On assuming office, the commissioners took up the question of the accounting system, two sets of books being kept by the corporation, the secretary-treasurer having charge of both the collection and disbursement of moneys, direct control of the general ledger, and certain principal accounting records, while the chief engineer,

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who prepares and is responsible for the estimates, had control of the distribution of materials and supplies, the keeping of time, and the engineering cost records, all of which did not provide an effective system of internal check.

As recommended by the Public Service Commission, 1912, which investigated the transactions of the harbour commissioners of Montreal, on July 1, a comptrollers' department was organized, having entire responsibility for all accounting and cost records of every department, including the preparation of bills, certification of vouchers, time-keeping and store records.

POLICE DEPARTMENT.

A harbour police department was organized on the 1st of May with a view of assisting the police of the city of Montreal in affording police protection to persons and property within the harbour, and of controlling and systematizing the vehicular traffic in order to minimize the congested state of the wharves, which is caused mainly by the large number of teams desiring entrance to piers, sheds, etc., at certain hours, as well as the traffic prior to the arrival and departure of steamers.

As it is impossible to forbid free movement of trains, which would in a great manner decrease the efficiency and handling capacity of the port, this department was of inestimable assistance to the railway department, not only in the regulating of traffic, but also in clearing the wharves of undesirables, as such have been nearly all the sufferers from accidents in the past.

Two hundred and sixty-eight prisoners were brought before magistrates and recorders during the year.

VESSEL TONNAGE OF THE PORT.

Notwithstanding the marked depression in trade in the commercial world during the latter part of the season, due to which, it was not expected that the tonnage of the port would show great increase, it is most gratifying for the commissioners to be able to announce that the past year has been a record one, as far as shipping is concerned, returns eclipsing by far those of any previous year, as may be seen from the statements appended hereto, showing respectively, for the past ten years:—

1. The number and tonnage of all vessels.
2. Classification of transatlantic vessels.
3. Classification of vessels from the Lower St. Lawrence and Maritime Provinces.
4. Number and tonnage of sea-going vessels and their different nationalities, also the number of men that manned the vessels.
5. The opening and closing of navigation, the first arrival and last departure of vessels, and the greatest number in port at one time.

An increase of 1,340,311 tons in ocean and inland vessels is recorded.

The season of navigation was also lengthened by the opening of navigation in the port fourteen days earlier than in the year 1912, and the closing six days later.

NEW STEAMSHIP LINES, ETC.

On the 22nd of May, the ss. *La Touraine* of La Compagnie Generale Transatlantique arrived in the port of Montreal, thus inaugurating a new direct service between Havre, France, and Montreal, and while only two sailings took place from the port during the season, it is expected that a regular service will be established during the year 1914.

The ss. *Andania* and other liners were added to the services already in operation from the port, and it is expected that the season 1914 will witness the arrival of the new ss. *Regina*, 16,000 tons burthen, of the White Star-Dominion Line, and the *Alsatian* and *Calgarian* of the Allan Line, and an additional number of tramp steamships.

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The addition of new steamship lines and steamships annually is convincing justification of the adoption of the scheme of harbour development undertaken during the past year to provide additional berthing accommodation. When we find steamship lines expanding or entering new ports, it may be assumed that the management of these corporations have satisfactory assurance that the outlay is justified by the profits to be had in trading to the port of Montreal. Such expansion or increase in tonnage means the necessity for more and better facilities in the port that expects to handle it; and if the port of Montreal is to keep pace with this shipbuilding and procure its proportionate share of the prosperity which the present activity forecasts, then it must immediately provide the piers, the docking spaces, the railroad and storage facilities which any material increase in this port's commerce will require.

RAILWAY DEPARTMENT.

Winter operations.—During the winter months, three of the harbour freight sheds were occupied for the distribution of railway freight, the railway traffic of the sheds with the team traffic and interchange of freight between railways keeping the car receipts well above former years, the increase over 1912 being more than 30 per cent.

Car handling.—The operation of the season of navigation began somewhat earlier this year than in the past, and by the latter part of April, import and export freight was being handled. The first two months of the season, May and June, were exceptionally heavy, and gave promise of a very successful season. Unfortunately, thereafter, the effects of the trade depression throughout the country was seriously felt, and at no time after July 5 did the car receipts come up to the returns of last year.

The decrease in car handling during the season of navigation was over 2,000 cars. Observations show that this reduction was due principally to the falling-off of shipments of apples, lumber, and hay for export, as well as a decrease in local freight. In 1912, 293,847 barrels of apples were exported from Montreal, whereas this year the shipments handled totalled only 207,926 barrels, a decrease of, approximately, 560 cars.

Car handling at the freight sheds, however, shows an increase of 12 per cent due to the fact that three more sheds were put into service this year.

In spite of the large amount of construction work and improvements to the railways tracks, the operations of this department were conducted successfully throughout the whole season.

PRESIDENT'S WESTERN TRIP.

Taking advantage of an invitation extended by the R. & O. Navigation Co., the president, on the 3rd June, 1913, attended the launching at Port Arthur of the steamer *Noronic*, after which ceremony an opportunity was afforded to impress upon the large grain exporters the advantages of the Canadian route and the economic facilities created at the port of Montreal for the handling of the products of the west. A mass of valuable information was collected and has been printed in a separate report, comprising a study of grain transportation, elevator tariffs, etc.

TRIP TO BUFFALO.

In October, the commissioners visited Buffalo where every courtesy was shown them in inspecting the elevator equipment at the port for the handling of grain.

CONFERENCE OF PORT AUTHORITIES.

On December 9, 10 and 11, the commissioners attended at New Orleans, La., the second conference of the National Association of Port Authorities of the United States. The three days' session afforded excellent opportunities for stimulating interchange of ideas, information on port construction and views as to proper port admin-

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istration. Much satisfaction was there felt at the unanimous expression of opinion from the leading harbour authorities of the continent that the port of Montreal afforded one of the best examples of modern seaport organization, possessing unity of control, opportunity for expansion and a carefully prepared plan permitting of such expansion for generations to come, adequate articulation of land and water factors and co-ordination of their uses under intelligent supervision, which have had the effect of bringing into most effective operation all of the separate factors, which, combined, best serve the terminal needs of a seaport community.

PASSENGER BUSINESS.

That the St. Lawrence route is becoming more favourably known each year as a great passenger highway is clearly shown by the returns, which show an increase eastbound and westbound for the year of 20 per cent over that of 1912.

ENGINEERING DEPARTMENT.

The construction work is almost universally carried on departmentally. The steady growth of the harbour and the constant yearly effort to keep pace with the commerce, has resulted in the commissioners having a splendid plant for the peculiar construction required. Dredging plant, tugs, derricks, and a shop for repairs, are all kept up-to-date, and the organization for construction is capable of dredging and placing in the works some two or three million cubic yards of excavated material, of building half a mile of cribwork and concrete quay walls of a height from the foundations to the cope of 60 feet, of building fifty thousand cubic yards of concrete, constructing railways, walls, culverts, and, in fact, almost every phase of port construction.

This department has during the year carried out the following.

Harbour improvements.—A successful construction season, no serious accidents in the port, satisfactory labour conditions and the best season on record with regard to the operation of harbour facilities.

The harbour commissioners' railway line was completed to high level, along the river front from Molson's creek to Racine pier.

Two permanent transit sheds were finished and opened for traffic on the Tarte pier.

The harbour commissioners' elevator No. 2 and its connecting conveyor system to all the berths in the central part of the harbour, was operated during the whole of the season with perfect success.

Harbour commissioners' elevator No. 1, situated in the most favourable position in the harbour for receiving and delivering grain was fully operated during the season, although an addition of one and a half times its present storage capacity was being constructed.

The dry dock site, providing a large basin for the floating dock *Duke of Connaught* and a large area of made land for the shipyard, was advanced almost to completion.

New quay walls of standard cribwork substructure and concrete superstructure were completed, having a total length of over 2,200 lineal feet and 2,000 lineal feet partly constructed.

Railway tracks to the extent of about 4 miles were constructed and an additional 1 mile improved and relaid.

The removal of the artificial works at Moffatt island was greatly advanced and its ameliorating effect on the St. Mary current towards the close of the season was very marked.

One of the important items of new work commenced was the construction of a large industrial wharf at Pointe-aux-Trembles.

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Another new work commenced was the construction of two new transit sheds on the high level bulkhead wharves, sections 24 and 25.

A new electric hoist, with bridges, connecting with the upper stories of the sheds on the Alexandra pier was constructed during the season.

Important items of paving on the wharves were completed and the roadways were put in a very much improved condition.

A commencement was made towards the re-construction of the superstructure of the wooden piers in the central part of the harbour, consisting of the substitution of concrete for the portion of the quay walls above low water level.

Important additions and improvements were made to the Harbour Commissioners' construction and operating plants.

HARBOUR EXTENSIONS.

Elevator No. 1.—Elevator No. 1, the original unit of the harbour commissioners' grain elevator system, was completed in 1904. For the first three or four seasons, the amount of grain handled was very limited, owing to the fact that the conveyor system had not been completed. In 1908 and 1909, with the completion of the group of transit sheds and conveyor system, the regular business of this elevator commenced, and for the last four years, it has been worked to its full storage capacity, on several occasions, during great rush of grain inwards, leaving many vessels waiting to unload.

Representations having been made to the harbour commissioners that additional facilities were urgently required so as to carry as much as possible of the Canadian export grain by the St. Lawrence route during the seven months of the open season, the harbour commissioners, after careful consultation, adopted the plan of constructing an addition to elevator No. 1, which would increase its capacity from 1,000,000 to approximately 2,500,000 bushels, and in proportion increase its working capacity. Construction work commenced early in the spring of 1913, and at the close of the season the addition is almost completed and it is only necessary to connect up the working machinery with the original elevator, which can only be done conveniently in the winter, when operations are closed.

Elevator No. 2.—A complete description of this elevator and its conveyor system was published in the annual report for 1912.

The chief feature of the harbour commissioners' elevator system is the situation of the various units for the convenience of the trade. The elevators are so located that grain may be kept in storage until required by the ocean vessels at their berths, and then delivered without interrupting in any way other stevedoring operations.

The grain is delivered to the vessels from the elevator by rubber belt conveyors to an extreme distance of 3,540 lineal feet. The power required to drive the belts and the necessary elevations and cut-offs is about 75 horse-power for each 600 lineal feet. The very complete and convenient system, therefore, while a great convenience to the trade, is not carried on without operating expense and careful management, and it is to the credit of the elevator staff that during the season of 1913, a quantity amounting to almost 44,000,000 bushels of grain was delivered without any serious mishap or mistake.

Elevator No. 2, with its capacity of 2,622,000 bushels, is not only one of the largest elevators at any ocean port, but it is conceded to be of the highest type of construction and most conveniently equipped of any elevator yet constructed.

Although 1913 was the first year of complete operation, this elevator received 20,800,000 bushels and delivered by conveyor system the same amount.

Almost from the opening of the season until the very close the storage capacity of the elevator was taken up to the utmost limit. If the ocean vessel tonnage had been sufficient to relieve the congestion of grain in store, the record of this elevator would have been very much higher, and transportation of Canadian grain by the Canadian St. Lawrence route would have been increased to a very large extent.

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Although construction work on the addition to elevator No. 1 was carried on during the whole of the working season, this elevator was operated to its usual complete storage capacity.

Floating elevators.—During the season of 1913 six floating elevators were kept in commission and available for work at all times for the direct transference of grain from lake vessels to the ocean steamships.

The quantity of grain transferred was slightly higher than last year, the whole operation being carried on without any trouble.

The improvement and extension of the harbour railway tracks.—In order to make the port of Montreal the best possible terminal connection between the Trans-continental Railways systems of Canada and the North Atlantic steamships, the shore area of the harbour has been designed as a convenient railway terminal. The railway tracks being operated directly by the harbour commissioners, such supervision can be made of traffic as to permit of extensive shunting and to give convenient access for railway freight to all points on the wharves at all hours, day or night.

The Grand Trunk and the Intercolonial railways connect with the harbour front at its extreme upper or westerly end. The Canadian Pacific and Canadian Northern railways reach the harbour towards the lower or eastern end.

The large harbour transit sheds, otherwise idle during winter, are very well adapted for the handling and delivery of steamship freight by rail from winter ports.

The railway terminals of the harbour commissioners which are being developed on the two shores of the St. Lawrence concurrently with the increased facilities being constructed for shipping have been considerably extended during the season of 1913.

From Victoria pier eastward the high level embankment for the railway grain yard and for the general tracks was improved and a system of drainage installed. A carriage way and sidewalk with ornamental electric lighting fixtures were completed along the completed portion of the wall between Victoria pier and Beri.

Additional retaining walls were completed for the whole of the low level portion of the market basin.

Farther eastward a siding was laid into the new harbour yard.

A new subway at Aylwin street, the construction of which was urged by the city authorities, was commenced and one half of the abutments are already constructed.

On the Tarte pier, new tracks were laid in connection with the new system of sheds completed during the season.

A new transfer siding was constructed for the Canadian Northern Railway Company at sections 53 and 54.

The tracks from Molson creek to Ravine wharf were raised to an average height of 6 feet to bring them above flood level.

The embankment was strengthened throughout the whole distance and rip-rapped to protect it against the wash of the river at high water.

Victoria pier and Market basin.—In the scheme of harbour extensions of 1909 every consideration was given not only to the enlargement of steamship accommodation, but also to give additional and convenient accommodation to the important fleet of river and ferry steamers.

It was recognized that the river steamers, which do a tremendous passenger and market traffic, should have a location in the harbour convenient to the centre of the city and to the Bonsecours market.

The construction of this large pier in the very centre of the congested harbour district is one of the most serious matters occupying the attention of the engineering department. Every effort is made to advance the work without undue cost and also not to interrupt the immense traffic which is carried on during the seven months of the navigation season.

The portion of the superstructure of the high level quay wall built to half height, in 1911 was finished during the season of 1913. Two additional cribs and the half

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height of quay wall were completed on the outer southeast corner of the high level portion of the new Victoria pier. On the inside of the Market basin 268 feet of crib-work was constructed and the concrete wall built to the Market basin level. The area between the outside and inside walls of the pier has been largely filled and the retaining wall dividing the high and low level portions was constructed to the full extent of the completed work.

Shed No. 16 on the high level Victoria pier.—This shed, almost completed in 1912, was allotted to the Canada line for the season of 1913, although the lower floor, owing to settlement of the new filling material, was not finished. The tracks were constructed on both sides of this shed and a trucking platform built of timber on the eastern side, for convenience in handling railway traffic.

Permanent sheds, Tarte pier.—The two sheds on the eastern side of the Tarte pier, under construction in 1912, were completed and opened for traffic at the commencement of the season. Railway tracks on both sides of the sheds were built and considerable work done on the roadways in the vicinity. As soon as the filling material has completely settled, it is proposed to pave the pier between the sheds.

Sheds Nos. 24 and 25.—The new quay wall having been built to high level, from the end of the Market basin, eastward to section 26, instructions were given to put in the foundations for two new transit sheds before the area inside the quay wall was filled.

Tenders were called for piling and the contract let to the Raymond Concrete Pile Co. of Canada, and work started on 1st October and the last pile was driven on 22nd November. The number of piles driven was 1,225, the average depth being 20 feet, and the maximum 40 feet 9 inches.

As the piles were driven to the old level of the wharf, viz., to elevation 107, and as the flooring of the new sheds was designed to be elevation 124, the concrete piers resting on the piles required the placing of some 6,000 cubic yards of concrete.

This work was started by the harbour commissioners' departmental organization on October 9, and was practically completed at the end of the year.

Tenders are at present advertised for the construction of sheds on these concrete piers so as to be available some time during the season of 1914.

Shed No. 24 is designed for the use of either coasting steamers, or large ocean steamers which do not require a full length of shed. The berth extends beyond the shed along the quay wall for part of the sloping ramp leading from high level down to the Market basin.

The dimensions of sheds 24 and 25 are as follows:—

Shed 24.. 264 feet by 105 feet.

Shed 25.. 484 feet by 105 feet.

High level wharves, sections 24 to 27.—Part of the old low level quay wall extending from the low level market basin at Berri street, eastward, was widened and strengthened and rebuilt on a 4 per cent grade from elevation 107 up to elevation 119, standard high level. From the top of the grade the quay wall was continued eastward. The portion of this work, of which the concrete quay wall had been constructed to half level in 1912, was completed. A further extension of three cribs was added during the season of 1913 and the concrete quay wall built up to half level. The re-filling behind these walls was carried out to the low level height and anchor blocks and tie rods completed.

Dry dock site.—This site is completely on harbour property; no roadway or railway lines will be cut and navigation is not in the least disturbed. The dock is located conveniently to some of the newest and most extensive industrial organizations in Montreal.

A description of the floating dock and general dimensions were given in the annual report of 1912.

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During the season of 1913 practically all reclamation work necessary for the launching slip and for the shops was completed. Work was carried on to the latest available date to complete as much as possible the site for the last building, the boiler shop.

Excellent work was done during the season in dredging of the approach channel. Owing to the high water the deep basin could not be cleaned up and completed this year as expected.

The concrete quay walls built to half level last year were completed and the balance of the cribwork, as designed for the site, was completed during 1913 and the concrete wall built to half level.

Owing to alterations in the plans of the Canadian Vickers, Limited, a portion of the quay wall at the head of the basin had to be removed and this work is being done by the Harbour Commissioners at the request of the Canadian Vickers, Limited, and at their expense, and the return wall for the slip is now constructed to half level. The southeast slip wall was concreted during the season and the southwest slip wall is now under construction.

General work on the tracks on the site, grading and rip-rapping of the outer embankment was also carried on.

New wharf, Pointe-aux-Trembles.—A wharf was designed to meet the requirements of the Canada Cement Company as well as for public purposes. On the company guaranteeing sufficient revenue for interest and maintenance, the commissioners obtained the authority of the government to proceed with the construction of the wharf.

The company owns the land directly to the harbour commissioners' boundary line, and they propose to carry all shipments to and from the water front by their own railway lines.

The wharf is designed to extend to deep water, to have a bulkhead quay wall 600 feet, and a wharf area, upon which a permanent coal handling plant will be constructed for unloading vessels, and for the storing of coal.

The order was given for this wharf about the middle of September, and before the close of navigation the cribwork substructure for a length of 400 feet and the concrete wall to one-half level had been completed.

Most of the dredging has been completed and a large amount of filling extending from the shore out 450 feet to the wharf and sufficient to protect the portion of the quay walls already built for the winter.

Reconstruction of wooden quay walls.—The wooden quay walls in the central part of the harbour constructed about fourteen years ago, are now reaching their age limit for the portion exposed above low-water level.

The tearing down of the old wooden quay walls and their reconstruction in concrete was commenced last year, and during 1913 considerable work was done on the eastern side of Jacques Cartier pier, opposite shed No. 13.

This work is very difficult to accomplish, owing to the fact that work can only be carried on during the absence of ocean steamships.

Sheet piling was driven along practically the whole of one berth, and it is proposed to carry this work on to a certain extent each year, so that the whole may be reconstructed before the wooden walls entirely fail. The portion of the cribwork under water is practically permanent and does not require rebuilding. The sheet piling is being driven along the face of this cribwork so as to add to its strength and for increased support of the heavy concrete wall, and also to permit of deepening the berths.

Moffatt island.—The removal of the artificial works, for the purpose of deflecting as much as possible of the water down the south channel, was continued during the

season. The whole of the artificial works on the west or Montreal side of Moffatt island were removed, and the approach to the island from the south shore was stripped and five new openings made in the embankment.

The excavated material was all used to protect the bank of the river eastward of Victoria bridge and a railway embankment was built for a length of about half a mile.

Longueuil wharf.—The old Government wharf at Longueuil was filled up and such work as was required to make it available for use of the ferry to Maisonneuve was carried out.

Dredging and filling in general.—Two of the harbour commissioners' dredges were engaged for the greater part of the season in deepening the channel south of St. Helen island. This work is being done to eliminate as much as possible the St. Mary current and to allow a part of the flow of the river to pass down between St. Helen island and the south shore, as it did in former years, before the construction of Moffatt island wharf and the deepening of the harbour.

The dredging was done to 20 feet at low water, the channel being made 180 feet wide. The length completed was 2,000 feet, the area dredged being about 8 square acres, all having to be excavated from low water level to the required depth.

A small dredge was also engaged all season removing a shoal between St. Helen island and the Guard pier. This dredge worked in the strongest current in the river and where the material was all boulders.

The area dredged to a depth of 10 feet at low water was 2 square acres. Over 300 boulders of considerable size were taken out and many large boulders had to be blasted before dredging.

The removal of the old Guard pier and general deepening and widening inside the Guard pier progressed favourably during the season.

The area dredged was some 520,000 square feet, or about 12 acres. As this widened channel was completed, the buoys were placed in new positions so that navigation would have the advantage of the improvements.

For the widening and deepening of the channel in the central part of the harbour, considerable rock work has to be done from year to year. In 1913 the harbour commissioners' drilling and blasting boat was employed at Section 14 to 17-S. Work commenced April 23 and continued until November 25. The material drilled and blasted was hard black shale and trap rock. The number of holes drilled and blasted was 3,009, the average depth of the holes being 8 feet. The quantity of rock drilled and blasted measured in situ was about 40,000 cubic yards; 15,500 pounds of dynamite were used.

A government elevator dredge did excellent work in the St. Mary current, widening the channel.

The length dredged was 1,900 feet by a width of 300 feet, covering an area of about 13 acres.

The first harbour commissioners' dredge started work in 1913 on April 14, and continued working up to December 13.

Harbour construction plant.—Almost all of the harbour commissioners' construction plant is worked day and night throughout the season.

This plant, subjected to such hard duty for seven months, requires heavy repairs every winter, and the commissioners' shop and shipyard are admirably adapted for such a purpose.

The plant of the harbour commissioners consists of: Five dredges, six derricks, ten tugs, one floating crane, two drill boats, one coal barge, two floating concrete mixers, thirty-five scows, five locomotive cranes and a variety of dump and flat cars and construction locomotives, pile drivers, and general plant.

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The new plant completed and put in operation in 1913 consisted of the following:—

Dredge No. 6, 104 feet by 39 feet by 10 feet 3 inches at bow.

Derrick No. 7, 88 feet by 31 feet by 9 feet 8 inches.

Tug *Passe-Partout*, 50 feet 6 inches by 12 feet 7 inches over all.

Three flat scows, 100 feet by 30 feet by 9 feet.

MAINTENANCE.

The maintenance of the harbour wharves, railways, roadways, buildings, and equipment is now becoming a very important item. Repairs are required everywhere, and the cleaning of the wharves and roadways is a work of considerable extent. The maintenance organization constantly employs a staff of repairers, pavers, iron-work men, painters, sweepers, and carpenters.

During the season 1913, the wharves were kept in excellent condition, and although the summer was very dry the watering of the extensive areas of roadways gave general satisfaction.

Lighting of the wharves required 218 arc lamps.

Every effort is made to maintain a complete life-saving equipment all along the wharves, consisting of life-buoys, ropes and long gaffs, and railings have been constructed at important corners of the wharves, and lights have been maintained at places which have proved liable to accident.

The maintenance and repairs to the harbour commissioners' extensive system of elevators and transit sheds were also carried out during the season by a staff under the inspectors.

Maintenance of channels.—For maintenance work, considerable dredging was done from time to time in the basins and channels as soon as any sign of shoaling was found in the testing operations.

All the material dredged by the harbour commissioners' dredges was saved and used in the construction of embankments and for reclaiming land areas for the harbour.

The following table gives the average monthly depth of water in the ship channel in the harbour during the season of 1913, as compared with the records for 1912; and also the monthly averages of the depth of water on the old No. 1 Lachine canal lock sill:—

Month.	Depth on old lock sill Lachine Canal.		Depth in Harbour Channel.	
	Average 1902-1912	Average 1913	Average 1912	Average 1913
	Ft. In.	Ft. In.	Ft. In.	Ft. In.
May	20 0	20 3	35 5	35 8
June	19 7	17 10	25 10	33 3
July	17 4	16 3	32 0	31 8
August	16 2	15 4½	30 11	30 9½
September	15 6	14 11	30 8	30 4
October	15 5	15 1	30 8	30 6
November	15 6	16 0	32 2	31 5

Berth and channel sweeping.—The channels and basins were swept at intervals during the season commencing April 21, and dredging was done wherever found necessary. One hundred feet were added to the width of the channel off the New Victoria pier. This area was cleaned up and tested, and the buoys properly placed, making the channel 700 feet wide at this point.

OPERATION.

Storage and handling of grain.—The total quantity of grain handled during the last ten years by the harbour commissioners' elevator system, exclusive of the grain handled at the Grand Trunk and other local elevators, shows what improved facilities have accomplished:—

Year.	Total quantity of grain handled or transferred. Bushels.
1904..	565,355
1905..	4,356,568
1906..	944,321
1907..	1,078,289
1908..	8,661,350
1909..	11,691,071
1910..	21,526,727
1911..	21,007,164
1912..	25,561,655
1913..	43,349,291

The following table gives the records of the operations of the grain elevator since the house has been in commission:—

<i>Grain Elevator No. 1.</i>		Bushels.
Year.		
1904..		565,355
1905..		4,356,568
1906..		944,321
1907..		1,078,289
1908..		8,661,350
1909..		11,691,071
1910..		14,906,569
1911..		13,849,475
1912..		16,179,503
1913..		15,554,282

<i>Grain Elevator No. 2.</i>		
1912..		2,346,930
1913..		20,819,055

<i>Floating Elevators.</i>		
1912..		7,035,217
1913..		7,459,933

Elevator No. 1.

Grain received and in store—

Kind.	Bushels Received.	Total Bushels.
In store end of season 1912..		71,525
Wheat..	10,252,314	
Oats..	1,880,822	
Barley..	1,685,671	
Flaxseed..	1,653,651	
Rye..	81,824	
		15,554,282
Total..		15,625,807

Grain delivered and in store—

Kind.	Bushels. Delivered.	Total Bushels.
Wheat..	10,209,238	
Oats..	1,926,148	
Barley..	1,564,100	
Flaxseed..	1,587,587	
Rye..	81,824	
		15,368,897
In store end of season 1913..		256,910
Total..		15,625,807

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Of above there were—

Delivered by conveyors.. . . .	15,334,145
“ cars (seventeen).. . . .	30,637
“ teams	1,938
“ bags.. . . .	2,177
Total.. . . .	15,368,897

Above grain received: By 178 steamers, 138 barges, and 2 cars.

Elevator No. 2.

Grain received and in store—

Kind.	Bushels Received.	Total Bushels.
In store end of season 1912.. . . .	.....	854,562
Wheat.. . . .	9,730,843	
Oats	6,193,664	
Barley.. . . .	1,875,689	
Flaxseed.. . . .	2,762,900	
Corn.. . . .	151,381	
Rye.. . . .	99,580	
Buckwheat.. . . .	4,023	
Peas.. . . .	975	
Total.. . . .		20,819,055
		21,673,617

Grain delivered and in store—

Kind.	Bushels Delivered.	Total Bushels.
Wheat.. . . .	9,612,596	
Oats.. . . .	6,498,296	
Barley.. . . .	1,583,343	
Flaxseed.. . . .	2,585,087	
Corn.. . . .	150,794	
Rye.. . . .	83,936	
Buckwheat.. . . .	6,409	
		20,520,461
In store end of season 1913.. . . .		1,153,156
Total.. . . .		21,673,617

Of the above there were—

Delivered by conveyors.. . . .	16,734,713
“ cars (1,396).. . . .	1,872,897
“ teams.. . . .	1,124,036
“ bags.. . . .	788,815
Total.. . . .	20,520,461

Above grain received: by 1,825 cars, 216 steamers, and 195 barges.

Floating Elevators.

Grain transferred—

Kind.	Bushels.	Total.
Wheat.. . . .	4,606,338	
Oats.. . . .	936,068	
Barley.. . . .	551,648	
Flaxseed.. . . .	1,351,838	
Rye.. . . .	14,041	
		7,459,933

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Transferred by elevator No. 9	678,864
“ “ 14	489,636
“ “ 15	1,410,225
“ “ 16	1,422,305
“ “ 17	1,609,045
“ “ 18	1,849,858
	7,459,933

Conveyor System.

Grain delivered by conveyors to following sheds:—

Shed No. 2	1,694,911
“ 3	1,558,870
“ 4	1,783,733
“ 5	2,582,797
“ 6	3,535,104
“ 7	2,049,798
“ 8	2,517,644
“ 9	2,080,883
“ 10	1,230,517
“ 11	3,184,780
“ 12	2,300,522
“ 13	3,646,605
“ 14	1,502,298
“ 15	1,313,961
“ 16	864,771
Transferred to elevator No. 2	31,847,194
	221,664
Total	32,068,858

Recapitulation.

Grain received and transferred by elevators—

Wheat	24,428,172
Oats	9,360,512
Barley	3,699,091
Flaxseed	5,524,512
Corn	150,794
Rye	179,801
Buckwheat	600,409
	43,349,291

By 1,827 cars, 548 steamers, and 633 barges.

GRAIN TRADE AND MARINE INSURANCE.

While the foregoing statements show an increase of 74 per cent over the quantity of grain handled during 1912, sight must not be lost of the fact that of the 192,260,000 bushels of grain received by lake at Buffalo during the year, a little more than 67,000,000 bushels, nearly 35 per cent came from Fort William and Port Arthur in addition to which large amounts came in bond through Duluth and Superior, most of which should have been transported via the Canadian route and the port of Montreal.

A more striking illustration of the great leak in the main artery of Canadian grain transportation is secured by comparing the routing of shipments of grain from Fort William and Port Arthur for 1903 with those of 1913, the beginning and ending of a ten-year period, when approximately 28,897,000 bushels of grain were shipped from Fort William and Port Arthur and 25,588,000 bushels were shipped from Montreal. Thus in 1903 the grain shipments from Montreal practically equalled the great lake grain shipments from Fort William and Port Arthur, whereas in 1913 they were practically only equal to about one-quarter of such shipment.

A study of grain transportation reveals the fact that the above condition, is due in a great measure, to insufficient ocean tonnage from the port of Montreal. Present marine insurance rates make it practically impossible for tramp shipowners to accept

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Canadian business, the extra premiums required being more than the rate of freight from Canadian ports will permit, unless the steamship can make a number of consecutive voyages between the 1st of May and the 1st October.

Notwithstanding this handicap, it is encouraging to note that about fifty-five tramp vessels with full cargoes of grain sailed from the port during the season, which has aided considerably in establishing the present record.

It is, however, felt that if Montreal is to maintain her supremacy as a great grain shipping port, no endeavour must be spared in view of the large expenditure made by the Dominion Government in the widening and deepening in the channel and the provision of aids to navigation to bring about a considerable betterment in insurance rates for St. Lawrence business, which should permit of tramp tonnage trading to St. Lawrence ports on an equal basis with the ports on the American sea-board, where cheap ocean freight and insurance rates exist.

In view, however, of the great attempt being made by the ports on the American Atlantic sea-board to capture a share of our grain trade, as is demonstrated by the following paragraph in one of their last annual reports:—

Our principal hope for export tonnage to remedy the deficiency which now exists, lies in Canadian grain. Not only in winter, but also in summer, Montreal is going to require more and more to be relieved of the burden of Canadian exports.

The commissioners feel that, until a substantial reduction in insurance rates is effected, serious and earnest consideration should be given by the Government to the advisability of granting a subsidy to tramp vessel owners, equivalent to the difference in marine insurance rates to American ports and the St. Lawrence river ports, which would, without doubt, make Montreal what she is destined to become, the greatest grain-shipping port in the world.

ELECTRICAL BRANCH.

During 1913 there was a considerable increase in the demand for power over the entire plant from the electrical department, which has entire charge of the installation and operation of the electrical equipment of the harbour.

Extension to System.—There is under construction an extension to No. 1 station of approximately 675 k.w. transformer capacity to take care of the extension to No. 1 elevator.

Several small machines, ranging from 5 to 15 h.p. have been installed in the engine shops for driving the machine shops and pumping plant at the round house.

Shed No. 16 lighting.—From No. 2 station a system has been installed for the lighting of shed No. 16, on both floors, and in offices, using four-light tungsten clusters 40 watt lamps, and large enamel reflectors distributing light in the centres of the bays. On the outside we have used strong flame type yellow arc lamps approximately 2,500 candle power each.

Extension of harbour arc lighting on high level wall, Victoria pier.—The arc lighting system from No. 2 station has been extended from Berri street subway to within a short distance of Beaudry street subway. Arc lamp standards have been erected along the high-level wall and Adams-Bagnall lamps have been placed on these standards as far as they extend. The total number of lamps of this type in use throughout the season was thirty.

Other flame arc lighting.—Several smaller flame lamps were used at No. 1 and No. 2 elevators and shed No. 16, totalling about 60 lamps of this type in use.

No. 7 derrick.—A complete lighting unit was installed on No. 7 derrick comprising 19 horse-power g. e. marine type engine direct connected to a 7.5 k.w. generator D.C. 125 volts. A blue Vermont marble switchboard with the necessary

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instruments, switches, and controllers was installed to control the arc lighting and incandescent lamps on the derrick. All wiring was placed in steel conduit, as this method of protecting the electric wires is found most satisfactory for this class of work.

Longueuil wharf lighting.—During the season of 1913 a system of street lighting was installed on the wharf at Longueuil for the convenience of passengers using the ferry service.

The operating staff carried on the service without any serious delay or accidents under somewhat severe conditions, as the contractors' construction work was going on at the same time.

FLOATING CRANE.

The harbour commissioners' floating crane was operated throughout the season, as follows. The season commenced April 16 and closed December 11, 1913:—

Number of days working.. . . .	127
Number of hours working.. . . .	581=28½ per cent.
Percentage of time in actual operation (hrs.).. . . .	404=about 20 per cent.
Total number of lifts:—	
Commercial.. . . .	422
Commissioners' service.. . . .	70
Average weight of lifts:—	
Commercial.. . . .	14.93
Commissioners' service.. . . .	20.97
Greatest lift:—	
Commercial.. . . .	60
Commissioners' service.. . . .	60
Total weight lifted during year.. . . .	6,771.49
Total weight lifted during 1912.. . . .	5,510

Report of the saw-mill and timber boom.—The saw-mill was in operation 279 days.

The quantity sawn during the season was 4,664,533 feet of hard and soft wood at an average cost of \$3.10 per M feet, b.m., composed as follows:—

Eighty-six lockages of round hemlock, pine and spruce, 587,520 lineal feet; 500,536 lineal feet of this was sawn up and delivered to the cribwork, etc.; 86,982 lineal feet of this was lifted with derrick out of water on the Bickerdike pier for winter work and spring stock.

The timber used during the year was as follows: 588,213 lineal feet, 2,146,598 feet, b.m., 10,544 railway ties, 441 cords of slabs, 3 loads of slabs.

MACHINE SHOP AND SHIPYARD.

The machine shop and shipyard, situated on the Mackay pier, are fitted up specially for the construction and maintenance of the dredging and construction plant.

The shop is an old wooden structure, but well equipped with excellent tools and machinery. There is also an excellent smith shop and boiler shop, both equipped for building and repairing.

The shipyard is very conveniently located for the hauling out as well as the construction and repairing of vessels.

Since 1910, the entire machinery of two dredges has been built, as well as the hull and machinery of a floating derrick, a tug and eight large flat scows.

The usual maintenance and repairs to the commissioners' fleet were well and economically carried out during the year.

YARD AND LOCOMOTIVE WORKS.

The large amount of construction work, maintenance and repairs on the harbour and the housing and care of the commissioners' locomotives required a conveniently located and properly equipped yard and locomotive house.

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Two years ago a site was chosen between the harbour railway tracks and Notre Dame street opposite Davidson street, or at section 42 on the harbour.

Reinforced concrete buildings were constructed for the locomotive house, the machine shops and stores.

The locomotive house, connected up with the harbour railways, has a capacity for six locomotives, with complete coal handling plant, water tank and repairing equipment.

The shop is designed and equipped for machine work, carpenter work and the necessary machines are installed for the various requirements of repairs, maintenance and construction.

GENERAL.

Wharf accommodation.—The extent of the wharves at the end of the season is as follows:—

For 30 feet draught and over.. . . .	20,379 lin. feet or	3·859 miles.
For 25 to 27½ feet.. . . .	13,869 lin. feet or	2·627 miles.
Total deep draught.. . . .	34,248 lin. feet or	6·486 miles.
For 20 feet and under.. . . .	3,159 lin. feet or	0·666 miles.
Total wharfage end of 1913.. . . .	37,407 lin. feet or	7·152 miles.

Extent of harbour railway tracks.—The extent of the harbour commissioners' railway tracks at the end of 1913 is as follows:—

1. South of Lachine canal, Bickerdike Pier, Windmill Point wharf and west.. . . .	24,688 lin. feet or	4·6760 miles.
Montreal and Southern Counties Railway	425 lin. feet or	0·0805 miles.
Total south of canal.. . . .	25,113 lin. feet or	4·7565 miles.
2. Sections 12 to 46, High level, main line track.. . . .	48,548 lin. feet or	9·1947 miles.
To piers, elevators, cross-overs and sidings, etc.. . . .	69,800 lin. feet or	13·219 miles.
Sections 35 to 46, Low level main line track.. . . .	12,150 lin. feet or	2·303 miles.
Sections 46 to 62, High level, main line track.. . . .	9,125 lin. feet or	1·7282 miles.
3. To wharves, industries, etc.. . . .	19,523 lin. feet or	3·6464 miles.
4. Guard pier.. . . .	10,400 lin. feet or	1·9696 miles.
5. South shore, St. Lambert.. . . .	2,300 lin. feet or	0·4356 miles.

Grand total tracks on harbour in use in 1913. 196,959 lin. feet or 37·3042 miles.

Labour.—The following table shows the maximum and average number of workmen employed directly by the harbour commissioners during the season of 1913:—

	Maximum.	Average.
Construction of wharves, etc..	813	610
Maintenance, cleaning, removing ice, etc..	270	58
Harbour yard, carpenters, blacksmiths, etc..	28	25
Sawmill and timber room, sawyers and handymen.. . . .	33	26
Machine shop, machinists, blacksmiths, etc..	100	74
Shipyard, carpenters, labourers, etc..	103	85
Dredging fleet, crews of dredges, tugs, etc..	320	297
(Grain elevators, foreman and operators.. . . .	84	76
Floating elevators, foreman and operators.. . . .	23	22
Shed repairs and maintenance.. . . .	23	10
	1,797	1,283

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THE SEASON OF NAVIGATION.

The season of navigation opened in the harbour on April 11 by the tug *Sir Hugh Allan*. The first arrival from sea was the ss. *Sokoto*, which reached the port on April 21, and the last departure for the sea was the ss. *Ruthenia*, which sailed on November 28. At the end of the year, December 31, the river was still open.

FINANCIAL OPERATIONS.

From the summarized statement of operations, hereto annexed, it will be seen that the total amount received on revenue account for the year 1913 was \$1,361,964.06, being an increase of \$312,652.56 over the previous year, the larger portion of which increase is attributable to the operating of grain elevator No. 2.

The disbursements on revenue account were \$1,325,636.36, of which \$706,675.39 was for interest, being an increase of \$216,831.41 over the previous year.

There was received from the Government on loan \$1,940,000 under the Act 2, George V., chap. 36, on account of expenditure on capital account, and also the sum of \$200,000 to retire debentures, series 'B' held by the public.

The disbursements on capital account were \$2,461,794.62. The principal works of improvement carried out are as follows:—

Harbour dredging.. . . .	\$ 252,742 61
Real estate.. . . .	99,671 35
Wharves, piers and basins.. . . .	779,752 80
Plant.. . . .	90,544 09
Shops and buildings.. . . .	14,924 12
Railways.. . . .	118,007 53
Permanent sheds.. . . .	190,100 70
Electric hoists, etc..	31,213 49
Grain elevators.. . . .	884,837 93

The debenture debt of the corporation on the 31st December, 1913, was \$21,522,000, of which \$1,672,000 is to the public, and \$19,850,000 to the Dominion Government. The average rate of interest on these debentures is 3.344 per cent.

DEPARTMENTAL STAFFS.

In terminating this report, the commissioners desire to express their appreciation of the loyal services rendered by the staffs of the different departments during the past year.

W. G. ROSS, *President*,

FARQUHAR ROBERTSON,

LIEUT.-COL. A. E. LABELLE,

Harbour Commissioners.

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STATEMENT showing the Classification of Transatlantic Vessels that arrived in Port of Montreal during the past Ten Years.

Year.	Steam-ship No.	Tonnage.	Barques No.	Tonnage.	Ships and Brigs No.	Tonnage.	Schooners No.	Tonnage.	Grand Total Vessels.	Tonnage.
1904	408	1,267,088	3	1,144	1	318	5	2,090	417	1,270,640
1905	422	1,357,517	3	2,324	..	..	17	14,988	442	1,134,829
1906	420	1,372,879	3	1,872	..	..	16	6,084	439	1,380,833
1907	381	1,339,014	..	....	..	..	..	....	381	1,339,914
1908	364	1,315,688	..	....	..	..	..	....	364	1,315,688
1909	371	1,436,963	..	....	..	..	..	....	371	1,436,963
1910	410	1,656,794	..	....	1	1,620	..	....	411	1,638,414
1911	401	1,695,613	..	....	..	..	..	....	401	1,695,613
1912	409	1,775,487	..	....	..	..	..	....	409	1,775,487
1913	477	2,020,333	..	....	..	..	..	....	477	2,020,333

COMBINED STATEMENT showing the Number and Tonnage of all Vessels that arrived in Port of Montreal during the past Ten Years.

Year.	Trans-Atlantic.		Maritime Provinces.		Inland.		Grand Total.	
	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.
1904.	417	1,270,640	379	586,057	10,063	2,354,975	10,859	4,211,672
1905.	442	1,354,829	391	585,227	11,112	2,788,551	11,945	4,725,607
1906.	439	1,380,835	381	592,388	12,557	3,095,174	13,377	5,068,395
1907.	381	1,339,014	361	586,972	14,420	3,620,550	15,161	5,546,936
1908.	364	1,315,688	375	642,916	12,434	3,589,124	13,173	5,548,628
1909.	371	1,436,963	299	474,450	10,991	3,146,494	11,661	5,057,907
1910.	411	1,658,414	336	574,808	13,636	4,327,799	14,883	6,561,021
1911.	401	1,695,613	361	642,639	11,670	4,275,019	12,432	6,613,271
1912.	409	1,775,487	327	628,437	12,586	4,649,767	13,322	7,053,691
1913.	477	2,020,333	343	670,202	13,426	5,703,467	14,246	8,394,002

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STATEMENT showing the Classification of Vessels that arrived in Port of Montreal for the last Ten Years, from the Lower St. Lawrence and Maritime Provinces.

Year.	Steamships.		Schooners.		Grand Total.	
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
1904.....	366	582,819	13	3,238	379	586,057
1905.....	364	580,485	26	4,116	391	585,127
1906.....	367	588,980	14	3,408	381	592,388
1907.....	343	579,930	18	7,042	361	586,972
1908.....	350	640,244	25	2,672	375	642,916
1909.....	273	470,936	26	3,514	299	474,450
1910.....	306	572,022	30	2,786	336	574,808
1911.....	330	639,752	31	2,987	361	642,639
1912.....	292	625,099	35	3,338	327	628,457
1913.....	299	666,053	44	4,149	343	670,202

STATEMENT showing the Nationalities and Tonnage of sea-going Vessels that arrived in the Port of Montreal, during the season of 1913, that were navigated by 73,260 seamen.

Nationality.	Number of Vessels.	Tonnage.
British.....	736	2,469,858
Norwegian.....	54	113,283
German.....	15	47,483
Dutch.....	4	12,094
Austrian.....	4	25,046
French.....	3	11,147
Danish.....	3	4,103
Belgian.....	1	7,521
Total.....	820	2,690,535

Of the above, 776 were of iron or steel with tonnage of 2,686,386 tons, and 44 were built of wood with a tonnage of 4,149 tons.

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STATEMENT showing the dates of the Opening and Closing of Navigation, the First Arrival and the last Departure for sea, also the Greatest Number of Vessels in the Port of Montreal at one time, during the past Ten Years.

Years.	Opening of Navigation.	Closing of Navigation.	First Arrival from Sea.	Last Departure for Sea.	Greatest Number of Vessels in Port at one time.			
					Sea-going.		Inland.	
					No.	Date.	No.	Date.
1904.....	April 25....	Dec. 9....	May 4....	Nov. 27....	23	Sept. 10....	180	July 13
1905.....	" 19 ...	" 12 ...	" 2....	" 30....	27	Oct. 4....	175	June 19
1906.....	" 20....	" 2....	April 28....	Dec. 2....	26	May 28....	124	July 8
1907.....	" 23....	" 15 ...	May 2....	Nov. 29....	29	" 24....	103	" 8
1908.....	" 22. ...	" 10....	April 30....	" 26....	24	June 21....	104	June 30
1909.....	" 16 ...	" 27....	" 23....	" 28 ..	22	Nov. 9....	107	Aug. 31
1910.....	" 1....	" 7....	" 11....	Dec. 1....	25	May 18....	122	Sept. 18
1911.....	" 23....	" 29....	" 26....	" 3....	24	Aug. 18....	85	June 5
1912.....	" 23....	" 21....	" 30....	" 3 ..	22	July 31....	86	Aug. 21
1913.....	" 9....	" 27....	" 19....	Nov. 29....	29	Oct. 3....	92	July 25

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Old items charged to construction in 1910, 1911 and 1912, transferred in 1913 to plant account:—					
Grain elevator No. 2, Part I	10,000 00	Victoria pier and market basin wharves	127,538 38		
Extension of railway tracks	25,000 00	Victoria pier footbridge	370 13		
Victoria pier and market basin	56,865 46	High Level shore wharves, sec. 25 to 30, ...	182,607 63		
Dredging and filling in general	20,426 98	Improvements, eastern section, floating dock site	299,158 34		
Floating dock site, eastern section	51,963 52	Pointe aux Trembles wharf	94,365 43		
		Racine pier	365 81		
		Windmill Point embankment	2 125 37		
		Paving wharves	73,221 71		
Transferred to plant account	164,255 96	Wharves, piers and basins, total	779,752 80		
Victoria pier shed No. 16, conveyor structure transferred elevator No. 2	23,400 00	Sundry plant	12,959 53		
Total amount transferred, see contra for debit. ..	.....	Flat deck scows	14,345 19		
		Dredge No. 6	1,089 86		
		Derrick No. 7	17,099 51		
		Gilbert dredging and blasting plant ..	45,050 00		
		Plant, total	96,544 09		
		New Harbour yard and engine house ..	12,022 52		
		Berri street office	2,901 60		
		Shops and buildings, total	14,924 12		
		Harbour railways and sidings	32,859 13		
		New high level tracks, above winter level	74,978 55		
		Aylwin street subway, under tracks ..	10,169 85		
		Railways, total	118,007 53		
		Permanent shed, No. 16, Victoria pier ..	21,102 53		
		Permanent sheds, Tarte pier	79,951 82		
		Permanent sheds, section 24 and 25 ..	89,046 35		
		Permanent sheds, total	190,100 70		
		Hoist and bridge sheds 3 and 4	28,392 34		
		Bridge for hoists, sheds 3 and 2	1,723 63		
		New electric circuit	1,097 52		
		Electric hoists, &c, total	31,213 49		
		Elevator No. 1, Addition	653,566 29		
		Elevator No. 2, construction, Part II ..	219,250 33		
		Elevator No. 2, quay wall Part I	2,150 30		
		Elevator No. 2, railway tracks, Part I ..	9,871 01		
		Grain elevators, total	884,837 93		
		Disbursements on Capital	2,461,794 62		
		Grand total disbursements	3,787,430 98		
		Old items of capital expenditure, transferred 1913, (see contra for credit):—			
		Plant account in 1910, 1911 and 1912	164,255 96		

SUMMARIZED STATEMENT OF Operations for the Year ended December 31, 1913.—*Concluded.*

Items.	Totals.	Grand Totals.	Items.	Totals.	Grand Totals.
Receipts on Capital Account.	\$ cts.	\$ cts.	Disbursements on Capital Account.	\$ cts.	\$ cts.
			Grain elevator No. 2, Part II., conveyors.	23,400 00	187,655 96
			Debentures, series B., due July 5, 1913, retired.		200,000 00
					4,175,086 94
			Deduct, payable on December 31, 1913 : Dominion Government, interest. Coupons outstanding Accounts payable and outstanding.	314,349 67 260 00 292,697 73	
			<i>L/88</i> , outstandings, December 31, 1912.	607,307 40 487,848 79	119,458 61
			Security deposits returned to contractors. Balance at 31st December, 1913 :— Cash on hand Bank of Montreal, coupon account. Accounts receivable. Materials in stock	 4,008 09 360 00 177,614 77 223,285 02	4,055,628 33 11,563 63
		4,472,459 62			405,267 88
					4,472,459 84

Certified :
GEORGE SMART,
Comptroller.

Verified :
RIDDELL, STEAD, GRAHAM & HUTCHISON, C.A.,
Auditors.

Certified :
DAVID SEATH,
Secretary-Treasurer.

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QUEBEC HARBOUR COMMISSION, FOR THE YEAR 1913.

QUEBEC, January 2, 1914.

To the Honourable J. D. HAZEN,
Minister of Marine and Fisheries,
Ottawa.

SIR,—In compliance with the requirements of the Act 62-63 Victoria, chapter 34, section 46 (the Quebec Harbour Commissioners' Act, 1899) I have the honour to submit the following report on the operations of the Quebec Harbour Commissioners for the year 1913.

CHIEF ENGINEER'S REPORT.

The annexed report from the chief engineer, Mr. St. Geo Boswell, conveys information regarding all matters coming under his care in connection with the harbour works in general, and the various additions, alterations, and reparations made to them, and the minor works executed during the year on the properties of the commissioners.

WHARFINGER'S REPORT.

The annexed report from the wharfinger, Mr. P. Flynn, gives the usual information regarding the number of vessels using the Louise docks, the goods landed or shipped on the wharves, and the railway traffic over the commissioners' property during the year 1913.

HARBOUR MASTER'S REPORT.

The annexed report from the harbour master, Mr. J. C. Sullivan, contains the usual data concerning the opening and closing of navigation, the formation of ice, and the routine work of his department.

The leases of the following tenants have been renewed for one year, all subject to cancellation after three months' notice, if any of the properties leased are required for harbour improvements: Canadian Import Company, 200 feet frontage in the inner basin; Quebec Railway Light, Heat and Power Company, wood yards on the embankment; Messrs. Lachance and Frère, coal yard on the embankment; Mr. Miles Loneragan, coal space on the embankment.

An agreement was entered into with the Grand Trunk Railway system and the Intercolonial Railway of Canada, whereby the commissioners have leased jointly to these companies an area of land comprising all the space included between Prince of Wales, St. Andrew, and St. James streets, and the river front. On this space, a large fireproof freight shed was erected, and several railway tracks laid for the accommodation of the railway companies.

REVENUE AND EXPENDITURE.

The revenue of the commissioners for the year 1913 was \$232,334.73, or an increase over the preceding year of \$106,203.34, and the expenditure chargeable to revenue amounted to \$229,307.90, leaving a surplus over the working expenditure for the year, of \$3,026.83.

EXPENDITURE ON CAPITAL ACCOUNT.

The expenditure on capital account during the year, out of the approved estimates by your department, under the "Quebec Harbour Advances Act, 1913" (3-4 George V, chapter 41), has been \$2,612,909.87, the details of which will be found in a tabulated statement annexed to this report.

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The general expenditure on capital account, out of the available moneys at the disposal of the commissioners, was \$230,243.71. A detailed statement of this expenditure is attached to this report.

The total expenditure on capital account during the year 1913 was \$2,843,153.58.

HANDLING OF RAILWAY CARS.

The commissioners have taken charge on the 1st of July, 1913, of the railway traffic on their properties, and have had in commission for this service three powerful switching locomotives. I am pleased to report that this service has proved a great improvement over the system prevailing, when all railways having access to Quebec were allowed to switch their own cars on the commissioners' docks and wharves.

The commissioners have had paragraph "C" of sub-section 2, of section 22 of their Act amended, so as to define more clearly their powers for operating switching locomotives, and carrying goods by any motive power to and from, or between the railways connecting with the harbour tracks and the harbour lines.

REVISION OF BY-LAWS.

The commissioners have revised and consolidated all their by-laws during the year, and have included, in this revision, regulations and tariffs for the hauling of railway cars, for the use of their floating crane, and for the handling of grain in their new grain elevator, which is to be in readiness to receive grain on the 15th of May.

ICE-CUTTING.

During the winter of 1912-13, 103,062 blocks of ice have been cut for local use.

Care has been taken that all the ice that is cut for domestic purposes is perfectly pure, and taken in localities in the harbour that have been selected after an analysis of the ice had been made.

To this report are annexed the various statements giving the information yearly forwarded to your department in connection with the harbour, and also a complete statement of the commissioners' accounts for the year.

I have the honour to be, sir,

Your most obedient servant,

RAOUL RENAULT,

Secretary-Treasurer.

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REVENUE.			EXPENDITURE.		
1913.	\$	cts.	1913.	\$	cts.
Dec. 31 To Harbour dues....	\$ 3,981	94	Dec. 31 By Administrating, engineering		
" Tonnage dues....	11,923	20	staff, salaries and fees....	30,305	57
" Export dues....	2,784	81	" Legal expenditure....	1,935	28
" Import dues....	6,967	89	" Notarial expenditure....	190	88
	25,657	84	" Miscellaneous expenses,		
" Beach and deep water lots..	1,111	97	printing, stationery, ad-		
" Earnings, docks, wharfs	199,603	21	vertising, harbour master	10,687	09
" Interest.	2,101	21	service, general labour, etc		
" Fines and penalties	3,763	00	" Property expenditure, taxes,		
" Sundries	97	50	insurance, repairs, etc.,		
			and the maintenance of		
			docks, wharfs and stores	140,189	08
			" Twelve months' interest on		
			bonds, 62-63 Victoria,		
			chap. 34, and 6-7 Edward		
			VII, chap. 36.....	46,000	00
			" Surplus over the working		
			expenses.....	3,026	83
	\$232,334	73		232,504	73

RAOUL RENAULT,
Secretary-Treasurer.

QUEBEC HARBOUR COMMISSIONERS' OFFICE,
QUEBEC, January 2, 1914.

ASSETS AND LIABILITIES AS PER BALANCE SHEET.

ASSETS.	\$	cts.	LIABILITIES.	\$	cts.
St. Charles' docks and wharves	5,640,716	22	Quebec harbour debentures	3,612,802	42
Indian Cove property	117,901	67	Receiver general	43,380	00
St. Nicholas quarry	4,522	23	Dominion Government securing dock walls	541,393	26
Sillery quarry	3,500	00			
<i>Beach and Deep Water Lots.</i>					
Capital at debt	24,094	28	Quebec harbour bonds, 62-03 Vic. Chap. 34	350,000	00
Arrears of interest June 24, 1913	230	12	Interest accrued to Jan. 1	3,000	00
Expert engineering			Quebec harbour bonds, 6-7 Edward VII, chap. 36	800,000	00
Beach lot, river St. Charles	450,346	16			
Plant and tools	296,189	59	Quebec harbour debentures, series "A", 1913	2,083,000	00
Materials on hand	3,366	05	Interest accrued to Jan. 1	23,956	69
Office furniture					
Accounts receivable			Accounts payable		
<i>Unsettled Claims against Dominion Government.</i>			Beach and deep water lots		
Department of the Interior	351,437	32	La Banque Nationale	162,578	54
Department of Marine and Fisheries	314	25	Union Bank of Canada	123,645	47
Department of Public Works	55,781	96			
Unearned insurance			Revaluation account	286,224	01
Suspense account			Profit and loss	161,107	12
Cash on hand				665,717	59
<i>New Constructions.</i>					
New offices	86,469	86			
Dredging	642,361	52			
Elevator No. 2	564,349	82			
Bulkhead	457,126	01			
Railway yards	10,276	80			
Floating crane	24,174	15			
Cribwork at Fly bank	90,370	21			
Steel dump scows	36,000	00			
Miscellaneous	71,618	94			
	1,972,747	31			
	8,915,346	88			
					8,915,346 88

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The arrears of interest due to the Finance Department, on the old debentures, or by the Dominion Government on outstanding claims are not included in this statement.

QUEBEC HARBOUR COMMISSIONERS' OFFICE,
QUEBEC, January 2, 1914.

RAOUL RENAULT,

Secretary-Treasurer.

We hereby certify that we have examined the statement of assets and liabilities of the Quebec Harbour Commissioners, and that we find the same in all particulars the true position of the trust to December 31, 1913, as per books and vouchers.

J. A. LARUE, }
RAULIN AMY, } *Auditors.*

QUEBEC, February 13, 1914.

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HARBOUR COMMISSIONERS OF QUEBEC,

ENGINEER'S OFFICE,

QUEBEC, January 2, 1914.

RAOUL RENAULT, Esq.,
Secretary-Treasurer,
Harbour Commission.

SIR,—I have the honour to submit the following, with reference to the various works in connection with the maintenance and improvement of the harbour accommodation, carried out by this department during the past year:—

PRINCESS LOUISE EMBANKMENT.

Bulkhead Wall.—The construction of the bulkhead wall along the northern face of the Princess Louise embankment, as recommended by Messrs. Coode, Matthews, Fitzmaurice & Wilson in their report of January 21, 1913, having been decided upon by the commission, arrangements were made for beginning this work on the opening of navigation in the spring. For this purpose the timber required, consisting of southern pine and spruce, was purchased during the winter; a site at Indian cove was secured for use as a service ground, for the construction of the cribwork foundations; and a quarry site secured at St. Nicholas on the south side of the St. Lawrence, where the stone required for construction purposes was obtained.

INDIAN COVE.

At this site the "Long wharf," some 1,820 feet in length, has been repaired to suit requirements; a saw-mill, with compressor plant has been erected; launching ways have been laid down, tracks have been placed on the wharf for the use of the travelling derricks and for the transportation of timber; booms have been repaired and constructed; the building known as the "salt shed" has been re-roofed with galvanized iron, and generally made wind and water-tight; the office building has been put into serviceable condition; a forge has been erected; a stairway leading from the main highway constructed, and electric lights placed in the mill and office building; two travelling derricks have been constructed and placed on the wharf for handling crib timbers, and the necessary boring tools for use in the construction of the cribwork have been secured.

QUARRY PROPERTY.

This property was developed during the early summer. For this purpose a wharf 160 feet long and 20 feet wide was constructed and grounding berths prepared along the northeast and southwest sides of the wharf, suitable for the grounding of deck scows; a boiler and engine-house, a store, an office, and a lodging-house were erected, a compressor plant installed, a locomotive crane placed on a track, laid down on the wharf for the purpose, and some 2,000 lineal feet of tracks for dump cars laid down to the quarry face.

A contract was also given to the Union Sand Company for the transportation of stone from quarry wharf to the site of the works under construction, by the commission.

Bulkhead Construction.—In connection with the construction of the work, a contract for dredging in the estuary of the river St. Charles was awarded by the commission, to the Dominion Dredging Company, which company has, during the past season, removed 2,986,700 cubic yards of material.

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In the trench excavated by the above company for the purpose, five of the foundation cribwork blocks, for the bulkhead wall have been sunk in position and filled with stone, making a length of foundation-work of 820 feet ready for the superstructure next spring. These foundation-blocks are founded at a depth of 40 feet below low water. In addition to the cribwork blocks placed in position, three others have been partially completed, one up to a height of 30 feet, one to a height of 13 feet, and one to 6 feet in height. A considerable quantity of the dredged material has been deposited as filling between the bulkhead wall and the present Louise embankment.

For the purpose of continuing the dredging operations, in connection with this work, next season, the commissioners have purchased two powerful dredges, six dump scows, three with a capacity of 500 cubic yards, and three with a capacity of 300 cubic yards, also one tow boat of some 900 indicated horse-power. Of the two dredges the "Fruhling suction dredge" has been delivered, and worked in the harbour for fourteen days, from November 5 to November 20, after which date she was made ready to proceed to St. John, N.B., for which port she left on November 28, arriving at St. John under her own steam on December 5.

The second dredge is to be of the ladder bucket type, with a capacity of 1,000 cubic yards per hour, and is now under construction by Messrs. Wm. Simmons & Co., of Renfrew, Scotland, for delivery early next season.

GRAIN ELEVATOR.

On the 18th of February last a contract was entered into with the Canadian Stewart Company for the construction of a 1,000,000-bushel fireproof grain elevator to be located on the Louise embankment, with a marine tower for loading or unloading vessels in the wet dock, a conveyor gallery system for serving the various berths in the Louise dock, and a dryer-house for restoring damaged grain. Provision has been made for increasing the capacity of this elevator by an additional 1,000,000 bushels.

The actual work of construction on this building was begun during the latter part of the month of April, and has since progressed in a very satisfactory manner. The workhouse, the storage-house, power-house and dryer are now practically completed, with the exception of the installing of the machinery, and minor interior work. The foundations for the marine tower have been completed, and the superstructure is now well advanced.

In connection with this elevator, a self-contained floating grain elevator, with a capacity of 30,000 bushels has been purchased for the purpose of serving vessels that cannot be reached by the conveyor galleries.

Louise Embankment—General Work and Repairs.—A transfer yard has been laid down at the western end of the embankment, where cars are delivered to and received from the various railway companies.

The landing shed No. 18 on the breakwater has been extended 420 feet, the total length of this shed now being 744 feet.

The baggage shed No. 24, removed from the breakwater to make room for the extension of shed No. 18, has been converted into a small machine shop, and has been fitted up with tools, and operated as such during the past summer. A locomotive shed has been placed at the northern side of this shop, where the three locomotives owned by the commission can be taken care of.

A new two-story carpenter shop is now in course of construction in the vicinity of the above buildings.

Two large fixed fenders have been secured to the northeast and northwest corners of pier No. 1, in order to protect vessels when rounding the northern end of this pier, for the purpose of berthing at the western face of this pier, or at the bulkhead wall now under construction.

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To make room for the new grain elevator, one-half of the shed No. 22 had to be removed. This half was re-erected on the completed part of the bulkhead wall, and is now occupied as the commissioners' store.

Three deck scows of the following dimensions, viz., one 75 by 36, and two 57 by 29 feet were constructed during the early summer. These scows have been made use of for the transportation of materials between the docks, Indian cove, Lampson cove, and the quarry. In addition to the above, the following plant has been secured for general use: Three locomotives, three locomotive frames, one barge, the *Daves*, one motor-boat, the *Gossoon*, one dredge—the *Fruhling Suction dredge*.

Under construction but not delivered: Floating 50-ton crane, barge for crane, floating crane elevator, ladder bucket dredge, six steel dump scows, one tow boat, ten deck scows.

A contract for the supply of the crane barge on the above list has been awarded to Sir Wm. Arrol & Company. A contract for the six dump scows to the Polson Iron Works.

For the ladder dredge, to Wm. Simmons & Co., of Renfrew, Scotland. For the floating grain elevator and the tow boat to Smith's Dock Company, Limited, of Middlesborough, England.

The ten deck scows on the above list are now under construction departmentally.

The motor-boat *Gossoon* which was seriously damaged by fire late in the season, is now being reconstructed at the commission's workshops.

Six floating fenders, 7 feet in diameter, have been constructed for use along the western face of pier No. 1.

One large and two small passenger and seven freight gangways have been built during the past season.

The planking in front of sheds Nos. 25 and 27 has been renewed, and filling supplied where required.

Car Ferry Terminals.—All the old buildings, consisting of Nos. 4, 5, 7, 8, and G. T. Railway sheds and offices on the site of these terminals have been demolished, the ground levelled up, the Wellington and East India wharves repaired, some 7,000 lineal feet of track laid down, and two structural steel and concrete freight sheds erected. The Grand Trunk and Intercolonial Railway companies moved into the new buildings on October 27 last.

New Office Building.—The foundations, concrete basement, drainage and water for this building were put in during the past winter by days' work, the remainder of the building from street level up was given out by contract. The walls, roof, floors and interior partitions are now completed, with the exception of the plastering and the copper sheathing of roof.

The Department of the Interior has made use of the landing shed No. 27 during the past season, for the accommodation of the immigration service.

Fly bank.—To retain the filling materials taken from the St. Charles river dredging, a retaining wall of cribwork 1,400 feet in length, founded in 20 feet of water at low tide, has been constructed at Lampson cove, and 798,000 cubic yards of material deposited in this locality.

Two new coal-discharging towers have been installed on the wet dock quay wall of the embankment, by the Nova Scotia Steel & Coal Company.

On July 1 last, the operation of the commissioners' railway lines was taken over by the traffic department.

The cross wall draw-bridge was operated for the first time, the past season, on April 5, and for the last time on December 15.

The water was retained in the wet dock for the first time of the season on April 19, and for the last time on December 6.

ST. GEORGE BOSWELL,

Chief Engineer and General Superintendent.

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QUEBEC, February 1, 1914.

RAOUL RENAULT, Esq.,
Secretary-Treasurer,
Quebec Harbour Commissioners,
Quebec.

SIR,—I have the honour to submit the following with reference to the traffic of the St. Charles docks and wharves, showing the number of vessels, their registered tonnage, amount and description of cargo landed and shipped from the docks during season 1913.

Inwards, 413 vessels, 1,997,111 tons register: 80,388 tons general cargo, 6,782 tons salt, 7,441 tons bricks, 560 tons cement, 2,378 tons slag, 214 tons drain pipes, 610 tons earthenware, 3,214 tons salt cake, 283,486 tons bituminous coal, 51,390 tons anthracite coal, 304 tons coke, total 434,867 tons.

Outwards, 135 vessels, 596,743 tons register: 24,023 tons general cargo, 1,045 tons asbestos, 17,145 tons pulp, 733 tons cardboard, 23,327 pieces of lumber, 6,052 loads of lumber. Total, 72,325.

Lower port steamers: landed 1,090 tons general, 3,350 tons pulp; shipped 5,172 tons general.

Grain landed.—

	Bushels.
Oats.. . . .	801,024
Corn.. . . .	187,963
Barley.. . . .	4,700
Wheat.. . . .	10,500

Pulpwood shipped.—7,500 cords.

During past season the different mail steamers landed:—

First-class passengers	10,214
Second-class passengers.. . . .	58,425
Third-class passengers.. . . .	157,152
Total	225,791

The second and third-class passengers were forwarded to their future homes by the different railway companies.

VESSELS DAMAGED AND USING THE DOCKS.

SS. *Lady of Gaspé* collided with ss. *Crown of Cordova* off Three Rivers, and received such heavy damage that she had to be beached. After having been floated she came into the Louise docks, discharged her cargo of damaged food, etc., which was sold by auction. After landing cargo, went over to Lévis, where she was repaired.

SS. *Whakatane*, having run into the wharf at Indian Cove, and having received considerable damage, came up to Louise docks, where she discharged part of her cargo. Went into the dry dock for repairs. After being repaired, reshipped her cargo and proceeded to Montreal.

During the year, spaces were rented at low rates for storage of coal landed which had to be removed from water front.

The Dominion Coal Company have 9,000 tons coal stored on the space rented to them.

The Nova Scotia Steel and Coal Company have 22,000 tons coal stored on the space rented to them.

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There are wintering in Louise docks, lumber, coal, railway ties, etc.

There are stored in the different freight sheds: salt, slag, pulp, etc.

The docks are occupied during the winter months by a large number of vessels of various tonnages, where they find safe quarters until the opening of navigation.

I have the honour to be, sir,

Your obedient servant,

P. FLYNN,

Wharfinger.

QUEBEC, January 3, 1914.

RAOUL RENAULT, Esq.,
Secretary-Treasurer, Harbour Commission,
Quebec.

SIR,—I have the honour to submit the following with reference to harbour for the year 1913.

Navigation was open in the harbour all winter, the ferry boats crossing the river and the Canadian Government steamers *Montcalm* and *Lady Grey* in commission.

The ice formed at Cap Rouge on the 13th January at 6 a.m., and broke away at 9 p.m. the same day.

The ice bridge between the island of Orleans and the mainland formed on the 14th of January.

Canadian Government ss. *Montcalm* left the harbour for lower St. Lawrence at 7 a.m. on the 14th January, with passengers, etc., and returned on the 22nd January.

Ice bridge formed at Cap Rouge on the 9th of February at 2 p.m. and broke away the same evening.

Canadian government ss. *Montcalm* left the harbour on the 1st March, with passengers, etc., for lower St. Lawrence, and returned on the 6th.

Canadian government ss. *Montcalm* left the harbour on the 18th March, working up the river toward Three Rivers.

SS. *Natashquan* entered loading berth, Louise basin on the 26th March.

SS. *Natashquan* left the harbour for lower St. Lawrence with passengers and freight on 1st April.

Ice broke up in tidal basin on the 7th April.

Small sailing craft arrived in the harbour from lower St. Lawrence parishes on the 4th April.

Schooner *Florida* arrived from lower St. Lawrence on the 4th April.

Schooner *Caron* left the harbour with a full cargo of freight for lower St. Lawrence on the 8th of April.

SS. *Natashquan* arrived from lower St. Lawrence with passengers on the 10th April.

SS. *Wacousta*, first coal steamer from sea, arrived on 14th April.

Ice in wet dock and tidal basin clear on the 15th April.

Lake and batture ice passing down on the 17th April.

Tug *Sin Mac* arrived in the harbour from Montreal on the 17th of April.

The ice in the St. Charles and north channel broke away on the 18th April.

SS. *Wacousta* left the harbour on the 18th of April for Montreal.

SS. *Sokoto*, with passengers and freight, arrived in the harbour on the 20th April.

Pontoons were placed in the harbour on the 23rd April.

Canada Steamship Lines, Ltd., ss. *Saguenay* arrived from Montreal on the 23rd of April and returned the same evening.

Canada Steamship Lines, Ltd., ss. *Tadousac* left for Murray Bay on the 25th April.

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SS. *Teutonic*, first Royal Mail passenger steamer from Europe, arrived in the harbour on the 26th April.

French warship *Descarte* arrived inwards on the 18th of July and passed outwards on the 20th instant.

July 27, ss. *Lake Manitoba*, after being aground at the island of Orleans, moored at the breakwater and after survey proceeded to Montreal.

July 23, ss. *Lady of Gaspé*, after being in collision near Three Rivers, entered Louise basin, and after discharging cargo proceeded to dry-dock at Lévis for survey and repairs.

September 14, ss. *Wakatane*, New Zealand Steamship Company, grounded at Indian cove; after getting off she proceeded to Louise basin, discharged cargo and left for the dry-dock at Lévis for repairs, etc.

In addition to the routine work of the harbour and office, seven hundred and thirty ocean sea-going steamers have been berthed at Louise docks, breakwater, and Point-à-Carcy wharves.

One of the most important parts of the work of the harbour is the berthing of these vessels, which is done at night time as well as in the day.

The limits of the clear-water space (forbidden anchorage) where telephone and telegraph cables are laid across the river opposite the city are indicated by red lights at night and signboards in day time on both sides of the river. This space is 1,200 feet.

The last of the season, Canada Steamship Lines, Ltd., ss. *Tadousac* arrived from Murray bay on the 20th November.

Last Canada Steamship Lines, Ltd., ss. *Quebec* from Quebec to Montreal left on the 27th November.

Notices have been posted in suitable places warning parties from discharging rubbish of any kind into the harbour docks, etc., and every precaution is being taken to prevent any violation of the regulations of the commissioners in that respect.

SS. *Empress of Britain*, last Royal mail and passenger steamer left the harbour on the 27th November.

SS. *Ruthenia*, last passenger and freight steamer left the harbour for sea on the 30th November.

Propeller *Carleton*, with coal cargo, arrived in the harbour on the 2nd December, after discharging cargo left on the 3rd for Montreal.

Propeller *Calgary* arrived down with cargo of grain on the 1st of December.

SS. *Wacousta* left inner basin on the 1st December for sea.

The wet dock and tidal basin are now taken up with a large number of steamers and other craft for the winter, but space is reserved for any steamers that may come up during the early spring.

Several small steamers and other small craft have taken up their winter quarters at Indian cove.

Canadian Government ss. *Lady Grey* and *Montcalm* have taken their berths in the Louise basin and Point-à-Carcy wharf for their work during the winter.

Canadian Government ss. *Montmagny* left the harbour on the 13th of December for lower St. Lawrence and Halifax, with passengers.

Up to the time of writing the ice bridge between the island of Orleans and the mainland had not formed.

Canadian Government ss. *Champlain* entered Louise basin for the winter on December 30.

I have the honour to be, sir,

Your obedient servant,

JAS. C. SULLIVAN,

Harbour Master.

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GENERAL EXPENDITURE on Capital Account.

Railway locomotives.....	\$ 37,114 04
Office furniture.....	849 60
Improvements E. I. and G. T. wharves.....	12,315 76
Locomotive shed.....	3,035 31
Machine shop.....	449 84
Indian cove improvements.....	1,348 80
Carpenter shop.....	4,299 61
Roadway pier No. 1.....	1,785 14
Protection fenders, pier No. 1.....	11,932 97
Shed No. 16.....	1,706 19
Shed No. 18.....	12,200 48
Shed No. 23.....	291 78
Shed No. 24.....	2,144 66
Deck scows.....	8,218 13
Indian cove property.....	117,901 67
St. Nicholas quarry.....	4,522 25
Sillery quarry.....	3,500 00
Scale.....	191 90
Railway bridge.....	3,660 00
Lumber.....	2,775 58
	<u>\$230,243 71</u>

EXPENDITURE ON CAPITAL ACCOUNT on approved estimates out of the vote of Parliament under the "Quebec Harbour Advances Act, 1913."

Dredging.....	\$ 642,361 52
Quay extension, river St. Charles.....	749,013 33
Grain elevator.....	554,349 82
Car ferry terminals.....	116,380 75
Railway yard.....	10,276 80
Floating crane.....	24,174 15
Floating fenders.....	3,794 10
Office building.....	86,559 86
Dredging plant.....	278,839 10
Cribwork at "Fly Bank".....	92,150 71
Elevator dredge.....	19,009 73
Steel dump scows.....	36,000 00
	<u>\$2,612,909 87</u>

COMPARATIVE STATEMENT of the Revenue of the Quebec Harbour Commissioners for the Years 1912 and 1913.

	1912.	1913.	Difference in 1913.
	\$ cts.	\$ cts.	\$ cts.
Tonnage dues.....	11,138 08	11,923 20	785 12 Increase.
Import dues.....	9,459 29	6,967 89	2,491 40 Decrease.
Export dues.....	4,160 46	2,784 81	1,375 65 Decrease.
Harbour dues.....	4,006 12	3,981 94	24 18 Decrease.
Earnings, docks, etc.....	88,757 12	199,603 21	110,846 09 Increase.
Beach and deep water lots.....	1,560 40	1,111 97	448 43 Decrease.
Interest.....	6,979 77	2,101 21	4,878 56 Decrease.
Sundries.....	70 15	97 50	27 35 Increase.
Fines and penalties.....		3,763 00	3,763 00 Increase.
	<u>126,131 39</u>	<u>232,334 73</u>	<u>106,203 34 Increase.</u>

RAOUL RENAULT,
Secretary-Treasurer.

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REPORT OF THREE RIVERS HARBOUR COMMISSION.

THREE RIVERS, January 26, 1914.

The Hon. J. D. HAZEN,
Minister of Marine and Fisheries,
Ottawa.

SIR,—The Harbour Commissioners of Three Rivers have the honour to transmit to you their annual report, showing a statement of the vessels registered inward and outward of the port, a memorandum of the goods in and out, and a statement of receipts and disbursements for the year ending December 31, 1913.

As the report shows, the receipts for the year have exceeded the expenses by a sum of \$3,894.64, but the receipts compared with those of 1912 prove a decrease of \$3,103.05.

The causes of the decrease in the receipts are mainly in the difference of the importation of bituminous coal and pig iron.

On account of its inability to secure, as in previous years, its supply of coal from the Dominion Coal Company, which imported same through our harbour, the Laurentide Company of Grand Mere, had to get its supply by rail from the United States, the Dominion Coal Company importing, this year, only 89,652 tons instead of 121,155 tons, last year.

The Canada Iron Corporation, of this city, being in liquidation, has imported only 3,696 tons of pig iron, instead of 10,792 tons, last year.

There has been also a diminution of some 2,000 tons of sulphur and 3,000 tons of china clay.

The industrial firms using these products have probably on account of the bad condition of the monetary market—stored, for the winter, a smaller stock of the goods.

The provisions of the new provincial law has also caused a small decrease in the exportation of pulpwood to United States, but the increase in the inland (fluvial) traffic, covers the difference.

As the circumstances which have occasioned the reduction in the traffic and receipts were beyond the control of the harbour commission, your commissioners can only state the fact with regret.

The prospect for next year is very favourable.

There is reason to believe that most of the coal that is being used in this city and the surrounding towns will next year be brought through this harbour, and it is also expected that the importation of sulphur, china clay and pig iron will be considerably increased.

Your commissioners take occasion to express their anxiety over their inability to give some of the coal trade that is proposed to be directed to this port the accommodation it will need.

As you are no doubt aware, the Bureau wharf, where this additional trade is intended to be operated, is not so constructed as to allow the landing of heavy freight, and unless the wharf is reinforced, it is feared that the harbour commission may lose the trade.

The harbour commissioners, in a recent interview with the Honourable, the Minister of Public Works, have requested that the required reinforcing construction be performed to the wharf so as to enable the landing of some 50,000 tons of coal, which is proposed to be landed here if the necessary accommodation is given.

The additional trade would require the erection of a considerable coal-handling plant, which the wharf, as now, is not supposed to safely carry.

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The honourable minister has viewed favourably the project of reinforcing the wharf in question, and has referred your commissioners to Mr. Lafleur, the chief engineer, who it is understood, has the matter under study.

The commissioners have also represented to the Honourable the Minister of Public Works, that it is very urgent that the proposed shelter basin and construction of wharves, which the Government has planned and already undertaken, be continued so as to secure for this harbour a place of shelter for the vessels in time of storms.

The repeated accidents and loss of vessels and cargoes which occur every year for lack of protection, in time of storms, is causing great anxiety to the harbour commissioners, who beg to submit that it is of the greatest importance that the construction of said shelter basin be no longer delayed.

May the commissioners ask that your department take up the matter with the Department of Public Works, and ensure the execution of the works with as little delay as possible.

Respectfully submitted,

HENRI GODIN,

Secretary, Harbour Commissioners of Three Rivers.

STATEMENT of Number and Tonnage of Steamers and other Vessels, reported Inward and Outward of the Port of Three Rivers, for the Year 1913.

OCEAN TRAFFIC.—Return of Vessels Inward.			OCEAN TRAFFIC.—Return of Vessels Outward.		
Nationality.	No.	Tons.	Cleared For.	No.	Tons.
British.....	27	68,508	Inland ports.....	28	63,379
Norwegian.....	16	35,865	Great Britain	15	40,994
	43	104,373		43	104,373
United States Traffic.			Inland Traffic.		
Steam barges..	5	785	Boats not registered.....	25	
Steamers.....	4	4,181	Schooners and barges.....	375	97,922
Canal boats.....	416	42,841	Tugs and steamboats.....	289	32,722
Sail barges.....	14	3,858			
	439	51,665		689	130,644

RECAPITULATION.

Ocean traffic.....	43	104,373
United States traffic.....	439	51,665
Inland traffic.....	689	130,644
Grand total.....	1,171	286,682

Exclusive of Richelieu & Ontario and other navigation companies steamers, local craft and market boats

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MERCHANDISE.

Inward.		Outward.	
Soft coal.....	89,652 tons.	Lumber.....	45,581,000 feet.
Hard coal.....	12,455 "	Pulpwood.....	32,389 cords.
Sulphur.....	10,400 "	Sand.....	140,600 tons.
China clay.....	1,086 "	Woodpulp.....	2,805 "
Pig iron.....	3,696 "	Concrete beams.....	622 "
Sand.....	549 "	Laths.....	1,911,000 "
Rosin.....	342 "		
Woodpulp.....	1,017 "		
Pulpwood.....	3,658 cords.		
Bricks.....	2,999,500		

Exclusive of freight in and out by Richelieu & Ontario and other local navigation steamers.

RECEIPTS AND DISBURSEMENTS FOR THE YEAR 1913.

Receipts.		Disbursements.	
	\$ cts.		\$ cts.
Tonnage dues.....\$	3,695 19	Current expenses.....\$	512 05
Harbour dues: Inward....	6,117 42	Salaries and commissions	3,360 92
" Outward....	4,879 19	Printing and stationery..	86 53
Commutation.....	800 00	Repairs and general	
Rent of wharves and		harbour expenses.....	2,594 67
moorage.....	5,741 31		6,554 17
Total receipts....\$	21,233 11	Interest on debentures ..	9,525 00
Interest on deposits.....	600 70	Sinking fund.....	1,905 00
	21,833 81		11,430 00
Balance on Dec. 31, 1912.....	24,719 64	Total expenses on revenue	17,984 17
		Deposits in bank, and cash on hand,	
		Dec. 31, 1913.....	28,569 28
Grand total.....	46,553 45	Grand total.....	46,553 45

HENRI GODIN,
Secretary-Treasurer.

THREE RIVERS, January 7, 1914.

REPORT OF NORTH SYDNEY HARBOUR COMMISSION.

NORTH SYDNEY, N.S., March 5, 1914.

To the Honourable,
The Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour herewith to submit the report of the harbour commissioners of the Port of North Sydney, for the year 1913.

The statement of the financial standing you will find on accompanying sheet.

I would call the attention of the department to the improvements affected by us during the year at the breakwater property, where a splendid roadway has been opened and considerable grading has been done, and the whole property put in better shape, so that it is now made use of largely as a pleasure resort during the hot weather of the summer months.

I would also respectfully call your attention to copies of letters inclosed, showing the esteem in which mariners hold the improvements made to our harbour entrance during last year, by the placing of a gas and bell buoy on Cran rock. This is very gratifying to us, as it was at our recommendation that this much needed improvement was made.

I would also call your attention to some other resolutions adopted by our board, and in which we trust your department will concur.

If there is any further information you would like to have on these, I will be pleased to furnish it.

Respectfully submitted,
KENNETH MACLEOD.

SUMMARY of Receipts and Expenditures, 1913.

Dr.		
January 31, to cash on hand.	\$614 04	
April 7, to cash from Royal Bank.	296 65	
May 9, to cash Harbour dues.	396 08	
June 14, to cash Royal Bank.	300 00	
July 7, to cash Harbour dues.	437 76	
July 28, to cash Royal Bank.	900 00	
October 6, to cash Harbour dues.	876 05	
“ 28, “ “	200 00	
Nov. 5, “ “	400 00	
Dec. 31, “ “	865 25	
“ 31, “ “	129 92	
		\$5,415 75
Cr.		
By wages and mater'al for repairs to breakwater . .	523 79	
By sundry expense.	66 90	
By wages and material improving ballast ground . .	79 45	
July 7. By paid Royal Bank.	300 00	
Aug. 4. “ “	303 75	
Oct. 6. “ “	600 00	
Dec. 31. “ “	317 35	
“ “ A. Allen, rent, 16 months.	100 00	
“ “ Commission, Jcs. McPherson.	165 25	
“ “ R. McDonald, harbour master	700 00	
“ “ Jas. D. Bissett, commissioner	550 00	
“ “ Arthur McDermott, commissioner	550 00	
“ “ Kenneth MacLeod, secretary.	650 00	
Jan. 31. By balance on hand.	509 26	
		\$5,415 75

NOVA SCOTIA STEEL AND COAL COMPANY'S RETURNS.

Coal shipped—
During year 1913, 481,449 tons.
Iron Ore received—
From Belle Isle, 120,500 tons.
“ Foreign, 7,060 tons.
General merchandise imported, 8,260 tons.

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REPORT OF PICTOU HARBOUR COMMISSION.

PICTOU, N.S., February 20, 1914.

The Hon. Minister of Marine and Fisheries,
Ottawa, Ont.

SIR,—I have much pleasure in enclosing you the account of receipt and expenditures of the Harbour Commission for the Port of Pictou, N.S., for the year ending the 31st December, 1913.

I am, sir, your obedient servant,

H. B. ROSS,

Secretary.

PICTOU HARBOUR COMMISSION—In account with H. B. Ross, Secretary.

1913.	Dr.	\$ cts.	\$ cts.
April 23	To paid Wm. McLean, bushing channel to East river.....	18 00	
June 5	Phil. Hall, painting buoys.....	7 50	
" 11	S.S. <i>Hiawatha</i> putting out harbour buoys.....	30 00	
July 23	E. McDonald, bushing East river.....	26 50	
Aug. 27	Robert McRay.....	5 00	
Oct. 24	Est. Geo. McDonald, secretary, for six months.....	50 00	
" 24	Scotia Printing Co.....	4 36	
" 24	Removing obstruction in East river.....	10 00	
Dec. 31	S.S. <i>Hiawatha</i> taking in buoys.....	30 00	
" 31	J. W. McRay, legal services.....	16 00	
" 31	A. D. Barry, lumber.....	7 20	
" 31	Alex. Talbot, repairing crane.....	25 00	
" 31	Ross Chapinan.....	5 00	
" 31	Telegrams and 'phone.....	1 00	
" 31	H. B. Ross, secretary, six months.....	50 00	
	Balance	1,124 11	
1912.	Cr.		1,409 67
Dec. 31	By balance	731 56	
1913.			
Dec. 31	Amount received from Collector of Customs, harbour dues for year ending December 31.....	678 11	
			1,409 67
" 31	By balance		1,124 11

PICTOU, December 31, 1913.

D. SUTHERLAND, *Chairman.*

H. B. ROSS, *Secretary.*

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ANNUAL REPORT OF THE TORONTO HARBOUR COMMISSION FOR THE YEAR 1913.

TORONTO, August 18, 1914.

His Worship Mayor HOCKEN

and Council of the Corporation of the City of Toronto, City Hall,

GENTLEMEN,—Herewith we submit for your information our report of the operations carried on under the jurisdiction of the Toronto Harbour Commission during the year 1913. The reports of the officials included herein give in detail the progress made on the various works planned by us, and a financial statement is also included certified to by our auditors, showing the details of receipts and expenditures during the year.

We are pleased to be able to show such substantial progress in carrying out the plans which have been prepared under our direction, and approved by your body and the Dominion Government, and we wish to take this opportunity of acknowledging the assistance which you have always readily afforded us in our desire to carry out the duty imposed upon us of developing in an adequate manner Toronto's harbour and waterfront.

Yours sincerely,

TORONTO HARBOUR COMMISSION,

F. S. SPENCE.

R. HOME SMITH.

R. S. GOURLAY.

T. L. CHURCH.

L. H. CLARKE, *Chairman*.

Mr. LIONEL H. CLARKE, Chairman,
and Members, Toronto Harbour Commission,
Toronto, Ontario.

GENTLEMEN,—I have the honour to submit herewith reports covering the work carried on by the staff in your employ during the year 1913, and am pleased to be able to report very substantial progress in the operations during the year.

The end of the year 1912 saw the completion of the preliminary planning which your board had to face before actual work could be commenced on the development and improvement of the public property placed by the citizens of Toronto in your charge during November of 1913. The general plans prepared under your direction for the development of Toronto harbour and of the Toronto harbour industrial district, as well as for the general improvement of the outer waterfront and the construction of breakwaters for the purpose of protecting the waterfront east and west of the inner harbour were approved by both the city council of Toronto and the members of the Government of Canada, both bodies undertaking the portions of the work allotted to them and the Government by an order in council dated June 10, 1913, approving the complete plans as submitted to them by your board.

During the year 1913 such substantial progress was made in the preparation of detail working plans and the completion of arrangements for the letting of contracts and starting the actual work that a contract was made for the dredging operations under the commissioners' jurisdiction which provides for the filling of the industrial district and reclamation of other lands at a minimum cost of \$3,950,000, and an option to increase the amount of dredging at the same unit price per cubic yard, at the will of the commissioners, up to an amount not to exceed a total cost of \$6,320,000. At the same time the Government let a contract for the construction of a breakwater

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extending from Woodbine avenue to the eastern channel on the eastern lake front, the construction of a breakwater extending from the western channel to the Humber river on the western lake front, and the construction and dredging of the ship channel in the industrial district, the total contract calling for an expenditure of \$5,371,-372.17.

The Government has also undertaken the construction of lift bridges across the eastern and western entrances to the harbour, and across the ship channel in the industrial district but the contract for this portion of the work has not yet been let.

DOCK PROPERTIES.

As the commissioners in the beginning of the year 1912 had adopted a policy of placing only one year leases on the docks along the waterfront until the development of the inner harbour had been decided upon and carried out, the wharves on harbour square dock at the foot of Bay street were again open for lease in the spring of 1913. Early in the year an important merger of steamship companies had been promoted as a result of which the Hamilton Steamship Company, the Turbinia Steamship Company, the Niagara Navigation Company and the Inland Lines, Limited, all became the property of the Richelieu & Ontario Navigation Company. This latter company hold a lease of the dock at the foot of Yonge street on the west side of the Yonge street slip, formerly known as the Geddes wharf, which lease ran till March 31, 1915. After the amalgamation the company desired to make new arrangements for the handling of its various lines and the commissioners accepted a surrender of the lease in question, and leased to the company three wharves being the east, west and south wharves of the Harbour Square dock for a rental of \$13,000 for one year, this being the highest rental ever received for this dock.

The Yonge street wharf, the lease of which was surrendered by the company, was utilized by the commissioners, as a public dock and the office of the harbour master was installed in the south end of the freight shed on the east face of the dock in order that he might be in a convenient location for the masters of vessels having business to transact with him.

During the year certain repairs were made to the Ferry dock at Centre island for the purpose of placing it in a condition of safety, and as a result of the expenditure required for this purpose the rental received from the Toronto Ferry Company for the use of this dock was increased from \$500 to \$1,000 per year.

Details of the expenditure incurred in the carrying out of the repairs to the various dock properties are given in the report of the engineer.

PUBLIC DOCK.

From the date of the formation of the new board of harbour commissioners there had been an insistent demand on the part of the public for the establishment of a public dock, at which any vessel entering Toronto harbour and not consigned to any one of the companies controlling wharves could be docked and its cargo discharged. This demand had been voiced persistently through the press, and when the new arrangements with the Richelieu & Ontario Navigation Company left the Yonge street dock free, your board decided to utilize it for public dockage purposes, and it was so operated during the season of 1913, with results which were most satisfactory considering that it was the first attempt to supply such a dock in Toronto harbour. Mr. John M. Allen, deputy harbour master, filled the office of wharfinger during the season in a most satisfactory manner, and was very active in securing business for the dock.

The system adopted for carrying on business in the freight sheds attached to the dock, was to place the wharfinger in charge for the purpose of directing operations, and to charge a certain rate per ton for all merchandise handled, either in or out, the

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employees of the boat landing the cargo or the company to which it was assigned performing all work in connection therewith.

During the season thirty-four vessels landed or received cargoes from the Commissioners' dock, the total net tonnage of these vessels being 42,297. Inward freight to the amount of 4,698 tons was handled, and outward freight to the amount of 3,083 tons was handled, on the wharf during the season, the wharfage dues on this freight amounting to \$2,226.40. In addition to the handling of freight a certain amount of accommodation was provided for the storage of goods for various firms, yielding a revenue of \$162.10, while the sum of \$125 was received in payment for the docking of two vessels at the wharf during the winter, this bringing the total revenue from the dock up to \$2,513.50.

We have every reason to believe that the revenue from this source would have been greater had it not been that the great storm of November 11, in which nineteen vessels were lost, had a serious effect on the amount of shipping during the balance of the season, while a fire which took place in the east shed on the morning of Sunday, November 9, restricted the amount of space available for freight storage.

In addition to the direct revenue yielded by the operation of a public dock the commissioners were saved the expense of arranging for office space for the use of the harbour master.

MOTOR BOATS.

In order to have it in a convenient location the commissioners' motor-boat was placed in a stall at the foot of York street rented from the Marine Construction Company in the spring of 1913, and on the morning of June 11, was destroyed in a fire which swept through the boat-houses belonging to this company and destroyed eight launches. A satisfactory adjustment was made with the company holding the insurance, a cash payment of \$1,500 being received to cover the damage, and the commissioners being allowed to retain the boat for whatever value there was in it. Tenders were subsequently called for from all the principal boat companies for the construction of a new and larger launch, and the Gidley Boat Company of Penetang was awarded a contract to build a mahogany launch capable of carrying eighteen people. This boat was completed and delivered to the commissioners in September, 1913, and has since given every satisfaction.

The boat which was destroyed by fire was subsequently rebuilt with the engine overhauled, and was placed at the disposal of the engineering department for use as a work boat.

LIFE SAVING.

The arrangements made in 1912 by the commissioners, under which the life-saving service on Toronto harbour, and the work of patrolling the harbour, and the enforcing of regulations, was undertaken by the life saving service for Canada, was continued during the year 1913. Under these arrangements the commissioners contribute the sum of \$3,050 towards the cost of maintaining the station, in return for the patrol service, and the maintenance and inspection of life saving apparatus.

During the year the life-saving station was removed from its former location on the western sandbar to a point on Wards island immediately west of the eastern channel, and the work of erecting a modern observation tower in connection therewith was commenced. Two fast launches were placed in commission by the Government for the purpose of carrying out the patrol work in addition to the regulation life boat, which was maintained for strictly life-saving work. A crew was formed and a continuous outlook maintained, night and day, at the station, with the result that many persons were rescued from the waters of the harbour, and undoubtedly many fatalities were averted.

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While the enforcement of regulations by the crew was not in every sense ideal, the life-saving portion of the work was performed in a most satisfactory manner.

Towards the close of the year a spirit of disaffection became evident amongst the members of the crew and an investigation was held by Commander Thompson of the Dominion life-saving service, as a result of which the entire crew, including the coxswain and mate, were given their discharge on December 15. A new crew has since been appointed.

At the request of Commander Thompson your engineering department co-operated with his department in the preparation of plans for the erection of a sub-station which is to be placed at the north end of the old crib work, east of Hanlan point. The plans have since been approved, and it is expected that this sub-station will be erected during the ensuing year.

REMOVAL OF SAND.

The removal of sand from the bed of the harbour by private companies was forbidden by the commissioners in 1912, the date set for the termination of the condition under which sand could be so removed being December 31 of that year. Following notification to this effect from the commissioners the Sand & Supplies, Limited, the company carrying on the principal business of this kind, entered into a contract with the Royal Canadian Yacht Club for the removal of sand from the mooring ground north of the club's island home which is leased from the commissioners. The commissioners took this as a breach of the by-law passed by them prohibiting the removal of sand from the harbour and instituted a suit against the company and the Yacht club for the purpose of preventing the carrying out of the contract. The case was tried before the Honourable Mr. Justice Middleton, and a decision given by him to the effect that the company must cease all dredging operations within the limit of the harbour, and must pay the commissioners for the sand removed during the year 1913. The Yacht club and Sand & Supplies, Limited, both accepted this judgment and the company, besides paying all costs of the action, paid to the commissioners the sum of \$2,420 for the 24,200 cubic yards of sand removed by them during the year.

Since then no further effort has been made by any company to dredge sand from the bed of the harbour.

PROPERTY.

Negotiations with the Canadian Pacific Railway which had been carried on during a portion of the year 1912 for the exchange of lands at the foot of Bathurst street were consummated early in 1913, and an agreement drawn up by which the commissioners transferred to the company a portion of the old Queens wharf property, and a portion of the waterlot to the west of the Queens wharf, in exchange for a portion of the waterlot owned by the Canadian Pacific Railway lying to the west of the commissioners' property and a piece of land at the foot of Bathurst street, which was owned by the company. In addition to the transfer of the land the company surrendered its lease in perpetuity to the Queens wharf, and the Queens Wharf waterlot, and also surrendered its rights in perpetuity to dock privileges in the old western channel and in the slip to the east of the Queens wharf. This agreement is of the greatest importance to your board giving you as it does absolute control of the waterfront from Bathurst street to the Humber river, and the right to fill in the old western channel upon receiving the consent of the Government.

In addition to the surrender of its leasehold and docking rights and the transfer of properties, the Canadian Pacific Railway also agreed to give the city of Toronto an easement and right of way 100 feet wide through its property for the purpose of extending Bathurst street south in a straight line, and to undertake at its own expense the re-arrangement and alteration of its buildings for the purpose of facilitating this extension. In return for this, the commissioners asked the city to deed to the Capa-

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dian Pacific railway a small triangular piece of the old Asylum Waterworks lot for the purpose of giving the Canadian Pacific railway entrance to the property acquired by it. This request was acceded to by the city council and the necessary deeds were drawn up and executed by the mayor and city treasurer.

When the city transferred its waterfront property to your board in 1911, it did not own the 19-acre waterlot in front of the exhibition grounds and immediately to the east of Dufferin street. The commissioners applied to the Government for a patent to this lot in order to complete their ownership of the waterfront property; and on January 27 the patent was received from the Government deeding the property to the harbour commissioners. Application has been made to the Government for patents of the waterlots north and south of the new western channel including the bed of the old western channel and also for the waterlot lying in front of Ellis avenue on the lake shore, and east of the eastern channel on Fisherman island. Details of the transfer of these properties have yet to be arranged but there is every indication that the Government will comply with the applications.

While the transfer of property from the city to your board gave you very full control of the waterfront east and west of the inner harbour, the greater portion of the property fronting on the bay between Bathurst street and Cherry street was still left in the control of the railway companies and private owners. In order to remedy this and secure complete control of the entire waterfront, negotiations were opened with the Canadian Pacific railway and the Grand Trunk railway for the purpose of securing the riparian rights of these companies between York street and Bathurst street. These negotiations have now reached the stage where a definite basis has been arrived at, and it only remains for certain details to be settled in order to have the agreement executed and the absolute control of this portion of the waterfront vested in the harbour commissioners. This will give your board control of the front from Bathurst to Yonge street; and under the agreement for the construction of the viaduct the board can exercise its right to secure control of the property not now owned by it between Yonge street and Parliament street, thus securing complete control of the entire waterfront in order that it may be developed in the interests of the citizens of Toronto.

RIPARIAN RIGHTS.

Early in the year the suit of Col. W. Hamilton Merritt which had been instituted against the city of Toronto previous to the acquisition by your board of the Toronto harbour industrial district, was carried by Colonel Merritt to the Supreme Court at Ottawa, the lower courts having decided against the plaintiff's claim that his property on the south side of Eastern avenue possessed riparian rights in Ashbridge bay. Mr. G. R. Geary, K.C., corporation counsel, successfully opposed the appeal, and the Supreme Court upheld the decision of the Court of Appeal for Ontario and decided that no riparian rights were attached to this property. Since that time Mr. H. M. Mowat, K.C., representing Col. Merritt and a number of other owners of property abutting on the industrial district to the north, has been in negotiation with your board, through your solicitor, Mr. A. C. McMaster, and the other officials, and a basis of agreement has now been reached, as a result of which these property owners in return for certain privileges which they ask your board to grant them will forego their claims to riparian rights.

Some time before the decision of the Supreme Court in the Merritt case the Schofield-Holden Machine Company and Messrs. Rickey Brothers, two firms carrying on the business of boat builders at the foot of Carlaw avenue, instituted similar suits against the city, to which suits the harbour commissioners were later added as co-defendants. These actions were tried jointly before the Chancellor, Sir John Boyd. Mr. McMaster, the board's solicitor, defended the interests of the harbour commissioners.

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and Mr. Geary looked after the interests of the city. Since the end of the year the chancellor has handed down a decision adverse to the plaintiff in which he makes it clear that there are no riparian rights attached to the properties in question. The decision has since been appealed to the Court of Appeal for Ontario.

TORONTO VIADUCT.

Following the appeal of the railway companies to the Governor General in Council against the order of the railway commissioners for Canada for the separation of railway and highway grades across Toronto waterfront by means of a viaduct, the railways abandoned their efforts to have bridges substituted as a means of grade separation and the harbour commissioners were a party to negotiations carried on between the city and the railways under the leadership of Mr. H. L. Drayton, chief railway commissioner for Canada, which resulted in an agreement for the construction of a viaduct along a different route from the one previously ordered. This agreement was signed by all parties and finally executed on July 29, 1913, and was confirmed by an order of the Board of Railway commissioners for Canada giving it effect. Under this agreement the railways are to acquire all the property south of the railway tracks on the esplanade from Yonge to Cherry street; and after deducting a strip therefrom 230 feet in width to serve as the right of way for the viaduct, the harbour commissioners have the option of taking over the balance of the property so acquired by paying to the railway companies one-half the amount paid by them for the property, or in the alternative to take over that portion of the property so acquired lying to the south of the viaduct right-of-way upon paying to the companies one-third of the total cost. This option does not have to be exercised by the commissioners until after the entire property has been acquired, and when exercised following the agreement just about completed with the Canadian Pacific railway and the Grand Trunk railway for the acquisition of all riparian rights from York street to Bathurst street will give the commissioners control of the inner waterfront from Bathurst street on the west to Parliament street on the east.

FIRES.

During the year two small fires resulted in a certain amount of damage to the wharf properties owned by your board. The first fire occurred on September 13, 1913, in the offices and waiting rooms attached to the Toronto dry dock at the foot of Bay street. The fire department rendered prompt aid and the fire was checked before it assumed serious proportions. A settlement was made with the insurance companies under which they paid \$1,500 which covered estimated loss.

On November 9 fire was discovered in the east shed of the Yonge street dock which was filled at the time with a cargo of macaroni and brown sugar. The fire started at a very awkward point behind the boxes of macaroni, but notwithstanding that there was a very strong wind blowing the fire department subdued the flames before the loss became serious. The contents, which were considerably damaged, were covered by insurance held by the consignees and settlement was made with the insurance companies for the damage to the building for the sum of \$1,600. In each case the damage was repaired by the construction branch of the engineering department at a cost covered by the amount of insurance secured.

LEASES.

The home of the Parkdale Canoe Club was totally destroyed by fire on February 8, 1913. As the location of this building was directly in the line of the improvements planned by your board for the western waterfront, the officials of the club were notified that they would not be allowed to erect a new building on the same location, and there followed negotiations between the club and your board as a result of which

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the club has been given a lease of a location on the property reserved for an aquatic club on the western waterfront at the foot of Wilson avenue. As this location is at the present time some distance out from the shore in the lake the commissioners agreed with the club, in return for the surrender of its leasehold rights at Sunnyside, to erect foundations suitable for a new club building on the new location. This was done in the fall of the year so that the foundation might be ready for the building during the year 1914.

The negotiations all through were conducted in a most reasonable spirit by the representatives of the club, all showing every desire to meet the wishes of the commissioners and facilitate the carrying out of the improvements planned for Toronto's waterfront.

When the Ashbridge Bay district was deeded to the harbour commissioners there was a small lot immediately east of the main entrance to the district under lease to a company called the Foundry Specialty Company. The buildings on the property were of very rough finish, being of cheap frame construction, and covered in some places with metallic sheeting. After going through many changes the property passed into the hands of Mr. R. P. Powell, the owner of the Queen City Foundry Company. In laying out the streets in the industrial district a small lot was formed behind the property held by this company, and negotiations were opened with Mr. Powell for the purpose of leasing him additional property and securing certain improvements to the building. As a result of these negotiations Mr. Powell leased the additional property, and agreed to replace the buildings which then existed by permanent structures of brick, which agreement he has since carried out, so that the building is now a presentable foundry building, and has ceased to be an eyesore.

The Polson Iron Works Company in arranging for the installation of a dry dock in connection with their plant on the esplanade, had arranged with the city for the closing of Frederick street south of the esplanade and the leasing of this property and the block to the west having 66 feet frontage for the purpose of constructing the basin for the proposed dry dock. This lease had not been completed when the property was transferred to your board, there having been some objection made by the Polson Company to some of the terms governing the rental. Following the transfer of the property the matter was referred to your board to deal with, but by this time the general conditions of the new viaduct agreement had been arranged, and it was known that the Polson property along with other waterfront properties would have to be expropriated for viaduct purposes. With this knowledge it was felt unwise to re-open the question of leasing the property to the Polson Company, and your board decided that the lease would not be completed, but that the property would be held free from occupancy until required for viaduct purposes.

ENTERTAINMENT.

During the year your board joined with the city council in the entertainment of the Montreal city council on the occasion of a visit by the latter body to Toronto, and also aided in the entertainment of the delegates to the National Municipal League, and during September had also the pleasure of entertaining the Honourable Robt. Rogers, upon which occasion he was taken for a tour of the harbour and waterfront, and the improvement planned explained to him on the ground. The total spent in these entertainments was \$493.52.

FRUIT MARKET.

The question of the provision of a modern fruit market for the purpose of accommodating the increasing fruit trade of the city was revived during 1913, and a special committee of council under the chairmanship of controller Thos. Foster was formed to consider the matter and make a report. Your board was requested to act with this committee as were also representatives of the board of trade. The com-

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mittee inspected the present fruit market at the foot of Yonge street, and at a meeting held later your board was requested to undertake the preparation of a report accompanied by plans suggesting a suitable market for Toronto. In order to secure the information necessary for such plans and work, the chief engineer and secretary visited several American cities and studied market conditions in these places. The report and plans were then prepared and submitted to your board preliminary to their submission to the joint committee, but the press of civic business followed by the municipal elections interfered with the holding of another meeting, and with the election of a new council the matter was allowed to drop. The plans and report are, however, ready for submission to the city at any time they may request.

TRANSPORTATION.

On October 14, your board instructed the engineer and myself to consult with commissioner Home Smith and prepare plans for the development and use of the new waterfront to be provided following the construction of the viaduct and for a proper railway service to the property to be reclaimed by the commissioners. This was done, and on November 26 of the same year a plan was presented to the commissioners showing a transportation system by means of which radial railways from various points outside of Toronto could be brought into the waterfront to a central station in the neighbourhood of Bay street. The plan was approved by the board and was submitted to the board of control on the same day accompanied by a letter explaining it. The board of control referred the plan to a committee of engineers consisting of the works commissioners for the city, the chief engineer of the Provincial Hydro-Electric commission and the chief engineer of the Toronto harbour commission for the purpose of securing a report. The matter is still waiting consideration by this board.

FINANCES.

Following the adoption of the plans for the improvement of the harbour and waterfront and the undertaking by the Government to carry out under the auspices of its Public Works Department a large portion of the work, your board was faced with the necessity of carrying out the dredging operations which were planned to be proceeded with co-incidentally with the breakwater construction undertaken by the Government. Tenders were called for for the purpose of awarding the contract for this work, and the contract was finally awarded to the Canadian Stewart Company whose price of 19 $\frac{3}{4}$ cents per cubic yard was the lowest of five tenders.

In order to be in a position to enter into such a contract it was felt that it would be wise to arrange for sufficient finances to cover at least one year's operation, and it was decided to make an issue of debentures to the amount of \$1,500,000. For this purpose the debentures were printed in denominations of \$1,000 currency and its equivalent in sterling, and both principal and interest were guaranteed by the city, the bonds being for forty years and bearing interest at 4 $\frac{1}{2}$ per cent. At the request of the city treasury board these bonds were not offered for sale in the English market but efforts to sell them were confined to the American market, this being done in order that there might be no conflict between the harbour bonds and several large blocks of city bonds which were then being offered for sale in England. This resulted in securing a slightly lower price than could otherwise have been secured, and the price was also effected by the extreme stringency of the money market at that time, September, 1913. The entire issue was sold to Messrs. Wm. A. Read and Company, of New York city, the price realized being 89 $\frac{1}{2}$ with accrued interest, the sale netting the commissioners \$1,342,500, and the accrued interest up to the date of the delivery of the last block of bonds amounted to \$18,214.34. As the largest portion of this money would not be needed until the work was well under way arrangements were made with the Toronto General Trusts Corporation and the National Trust Company, under

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which almost the entire amount received from the sale of bonds was placed with these companies for investment on their guaranteed plan. Under this plan the companies used the money for investment only in certain prescribed securities paying interest to the commissioners for the use of it at 5 per cent per annum, and guaranteeing the return of the principal by a certain date. In this way the commissioners were assured of sufficient capital to commence operations, and at the same time were at but little loss by reason of having the money lying idle in the bank.

The net revenue for the year exclusive of receipts from the sale of debentures, insurance payments and other items balanced by contra accounts amounted to \$68,679, of which sum \$56,384.46 was received in rentals, \$8,593.24 in harbour dues, \$2,513.50 from the public dock, \$615.75 bank interest, and \$572.05, being interest on debentures on deposit with the Bank of Toronto. This revenue shows an increase of \$12,222.79 over the revenue of 1912, the greater portion of this amounting to \$8,763.42, being an increase in rentals received.

The expenditures on revenue account during the year amounted to \$27,264.61, leaving a balance of \$40,819.59.

During the years 1912 and 1913 various expenditures on capital account were made out of revenue as no provision has been made for finances to meet the capital expenditures. A careful account was kept of all such expenditures. And upon the sale of the first issue of bonds the amount of \$70,847.40 was transferred from capital to revenue accounts to repair the deficiency thus created. It was very necessary that the revenue account should be carefully safeguarded as of necessity during the first two or three years of operation very heavy capital expenditures will have to be met before any large revenue can be looked for, and the interest of the bonds issued for the purpose of meeting these capital expenditures will have to be met out of the revenue account.

The expenditure on capital account during the year 1913 amounted to \$149,821.42, details of which are given in the report of the chief engineer.

INSURANCE.

When considering the civic estimates for the year 1913, the board of control asked the harbour commissioners to take over the city's hydraulic dredges Nos. 1 and 2, and also a small clam shell dredge, and to undertake the operation and maintenance of the same. The commissioners agreed, and the vessels were added to the plant owned by your board. This resulted in an increase in the value of the property to be covered by insurance, upon the expiration of the old policy on November 17, the total amount of property being increased from \$196,604 for 1912 to \$301,094 for 1913, and the premiums on the above increased from \$2,791.77 to \$4,275.53.

STAFF.

The work of the entire staff in my department during the year was most satisfactory, and where all the service was rendered cheerfully and with enthusiasm it would be invidious to single out any individual member for special mention. I may only say that the entire staff has been most loyal in looking after the interests of your board, and that the work in all branches is now in a most satisfactory state. I would like also to take this opportunity on behalf of the staff and myself of offering to your board our appreciation of the kindly manner in which our efforts have been received by you, and the substantial way in which we have been rewarded.

The financial statement for the year prepared by the accounting department is attached hereto together with the certificate from the auditors.

All of which is respectfully submitted.

ALEX. C. LEWIS,

Secretary.

FINANCIAL STATEMENTS.

Receipts.

Cash on hand January 1, 1913	\$ 38 42
Rents received	56,384 46
Harbour dues	8,593 24
Wharfage dues (Public Dock)	1,918 70
Insurance returns (Toronto Ferry Dock fire)	1,500 00
Interest on deposits	615 75
Interest on debentures (with Bank of Toronto)	572 05
Debenture loan	960,000 00
Accrued interest on debenture loan	8,202 03
Contractor's deposits on contract	197,500 00
Interest on contractors' deposits	665 60
Suspense cash from 1912	80 14
	\$1,236,070 39

EXPENDITURES.

Investments (short period)	\$ 650,000 00
Insurance Wharf Properties, etc.	2,931 99
Dredging (contract)	643 09
Bulkhead foot of York Street	272 73
Bulkhead between Ferry Dock and Inlands	818 87
Bulkhead between Jacques Dock and Ferry	478 74
Lights, Beacons and Buoys	1,021 51
Travelling Expenses	3,169 11
General Office Expenses	5,424 07
Life-saving Station	2,851 32
Filling water lots Bathurst Street	240 45
Launch House erection	597 35
Automobile No. 1 (Maintenance)	1,243 36
(Overhauling)	569 39
(Insurance)	187 25
Automobile No. 2 (Capital)	3,100 00
Radial Railway Terminals	42 04
Motor Boat No. 1 (Maintenance)	560 00
(Capital)	500 00
Motor Boat No. 2 (Maintenance)	225 05
Motor Boat No. 4 (Capital)	1,300 00
Orange Peel Bucket Dredge	2,678 50
Hydraulic Dredge No. 1	7,405 33
Hydraulic Dredge No. 2	11,607 42
Hydraulic Dredge No. 3	17,422 08
Engineering Equipment	52 16
Debenture Issue Expenses	1,277 50
Parkdale Canoe Club Cribs	416 84
Hydrographic Survey	474 70
Precise Levels (Bench Marks)	812 20
Grade Separation	79 40
Waterfront Survey	1,554 51
Waterfront Development	43,425 44
Toronto Ferry Dock, Centre Island	2,357 61

5 GEORGE V., A. 1915

Toronto Ferry Dock foot of Bay Street..	6,696	70		
Designing Department	10,684	86		
Survey Department	14,644	03		
Dredging Account.. . . .	11	06		
Ward's Island Dock Repairs.. . . .	28	60		
Plant Account	41	03		
South of Harbor Square Docks	34	15		
Inland Dock Line.. . . .	220	84		
Advertising and Publicity	3,752	34		
Queen's Wharf Maintenance	208	62		
Public Dock Maintenance	173	12		
Foundation Tests.. . . .	522	87		
Filling Water Lots Central.. . . .	57	68		
Toronto Harbor Industrial District, Filling	1,190	45		
Toronto Harbour Industrial District,				
Maintenance	157	37		
Borings	1,821	96		
Miscellaneous Docks.. . . .			\$	68 95
Lakeside Home Dock	7	55		
Property Survey	4,787	47		
Tool House Harbor Square.. . . .	6	18		
Public Dock Repairs and Scales	1,527	09		
Canadian Lake Line Dock	749	83		
Office Furniture.. . . .	388	40		
Dredge Superintendent's Office, Furniture	21	46		
Accounts Receivable.. . . .	1,133	00		
Drafting Department.. . . .	22,401	55		
Dominion Bank.. . . .	198,165	60		
Bank of Toronto	98,958	35		
Debenture Loan Discount	100,800	00		
Interest on Overdrafts	1,187	80		
Loan by Bank of Toronto (1912)	4,437	47		
Cash on hand December 31, 1913	115	31		
			\$1,241,272 75	\$ 68 95
By amount carried over from 1912 and				
proportioned to charges in 1913.. .	\$	5,163 71		
Furniture Trans.		568 85		
	\$	4,594 86		
Less Credits.. . . .		68 95		
Less of Deprec. of Furniture		538 55	\$	5,202 36
			\$1,236,070	39

WATERFRONT DEVELOPMENT.

To Capital Expenditure of 1912 carried				
over to 1913 and transf.	\$	37,423 42		
Less amount proportioned over works . .		5,163 71		
			\$	32,259 71

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To Expenditures for Year 1913—

Dredging Contract	643 09	
Debenture Discount	2,520 00	
Automobile No. 1 (Maintenance)	1,243 36	
(Overhauling)	569 39	
(Insurance)	187 25	
Waterfront Development No. 1	43,425 44	
Travelling Expenses	3,169 11	
Filling Water Lots Bathurst Street	240 45	
Drafting Department	21,794 32	
Borings	1,821 96	
Foundation Tests	522 87	
Radial Railway Terminals	42 04	
Orange Peel Bucket Dredge	2,678 50	
Hydraulic Dredge No. 1	7,405 33	
Hydraulic Dredge No. 2	11,607 42	
Hydraulic Dredge No. 3	17,422 08	
Grade Separation	79 40	
Debenture Issue Expenses	1277 50	
Parkdale Canoe Club Cribs	416 84	
Hydrographic Survey	474 70	
Waterfront Survey	1,554 51	
Precise Levels (Bench Marks)	812 20	
Designing Department	10,617 86	
Survey Department	14,509 43	
Motor Boat No. 2 (Maintenance)	225 05	
Advertising and Publicity	3,752 34	
Toronto Harbor Industrial District	1,947 82	
Property Survey	4,787 47	
Insurance Account	398 84	
Engineering Equipment	34 76	
Entertainment Account	803 80	
Survey and Drafting Equipment	\$ 1,145 67	
Property Transferred	5,000 00	
Furniture Transferred	20 25	
Balance to Waterfront Development, Dec. 31, 1913	183,078 92	
	\$189,244 84	\$189,244 84

GENERAL BALANCE SHEET, DECEMBER, 31, 1913.

Properties	\$8,741,752 29
Office Furniture	3,400 68
Survey and Drafting Equipment	1,145 67
Investments	665,000 00
Accounts Receivable	2,894 55
Rents Receivable	4,136 00
Plant Account	165,234 60
Bank of Toronto	98,958 35
Dominion Bank	198,165 60
Cash on Hand	115 31
Rentals Accrued	3,485 67

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Debenture Loan Discount	98,280 00	
Waterfront Development Cap.	183,078 92	
Contractors' Deposits and Interest.		\$ 198,165 60
Debenture Loan.		960,000 00
Suspense Payments.		1,230 94
Depreciation of Furniture		1,838 55
Insurance (Toronto Ferry Fire)		1,500 00
Accrued Interest for Debentures		8,202 03
Income and Expenditures.		105,287 32
Property No. 1 (Old Harbor Board).		472,340 00
Property No. 2 (City of Toronto).		8,262,584 00
Plant Account (City of Toronto)		154,500 00

\$10,165,648 44 \$10,165,648 44

T. Graydon, *Accountant.*

We beg to report that we have maintained a running audit of the books and accounts for the past year, and certify that the statements attached are correct, and are in accordance with the books of the Commissioners.

The insurance policies and receipt from the bank for securities held by them have been examined and are in order.

S. BRUCE HARMAN,
SYDNEY H. JONES,

Auditors.

1st April, 1914.

PLANT ACCOUNT.

Hydraulic Dredge No. 1	\$ 20,000 00
Hydraulic Dredge No. 2	55,000 00
Hydraulic Dredge No. 3	75,000 00
Orange Peel Bucket (Clam)	1,500 00
Scow No. 1	500 00
Scow No. 2	500 00
Scow No. 3.	1,000 00
Scow No. 4.	250 00
Motor Boat No. 1	2,860 00
Motor Boat No. 2	750 00
Motor Boat No. 3	215 00
Motor Boat No. 4	1,300 00
Automobile No. 1	3,000 00
Automobile No. 2	3,100 00
Tools, etc., at Harbor Square Tool House	259 60
	\$165,234 60

INVESTMENTS.

Debentures held by the Bank of Toronto—

City of Toronto	\$ 5,000 00
Canada Permanent Mortgage Corp.	10,000 00

Guaranteed Investments (Short Period)—

National Trust Co. Limited	250,000 00
Toronto General Trust Corp.	400,000 00
	\$665,000 00

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BELLEVILLE HARBOUR COMMISSION.

BELLEVILLE, ONT., March 11, 1914.

The Deputy Minister of Marine and Fisheries,
Ottawa, Ont.

SIR,—Enclosed please find statement of the harbour commissioners; also statement of the sinking fund, and harbour master's report. Trusting you will find the same in order,

I am, sir, your obedient servant,

B. L. HYMAN,
Chairman.

STATEMENT of Harbour Commissioners.

1913.

June 18.—To balance in bank, December 9,	
1912.. ..	\$451 93
" 18.—To harbour dues.. ..	440 20
July 11.— " "	426 93
Aug. 12.— " "	184 26
Sept. 11.— " "	229 90
Oct. 10.— " "	307 63
Nov. 10.— " "	346 01
Dec. 29.— " "	93 70
	2,480.56

1912.

Dec. 13.—By Auditor's fees.. ..	\$5 00
1913.	
April 14.—By Commissioner's expenses to Ottawa.. ..	38 00
May 8.— " Secretary's salary.. ..	50 00
Sept. 3.— " Livery bill.. ..	3 00
Oct. 1.— " Coupon interest on debentures ..	600 00
Dec. 29.— " Harbour Master's salary (13 months)	650 00
Nov. 19.— " Sinking fund.. ..	645 19
Dec. 31.— " Balance in bank, as per book....	489 37
	\$2,480 56 \$2,480 56

STATEMENT of Sinking Fund to November 30, 1913.

To credit of Sinking Fund in bank, as per statement rendered December 9, 1912... \$4,137 36

1913.

May 31.—Interest.. ..	61 35
Nov. 19.—Deposit.. ..	645 19
" 30.—Interest.. ..	63 70
	\$4,907 60

The above is a correct statement of the Sinking Fund to November 30, 1913.

B. L. HYMAN,
Chairman.

5 GEORGE V., A. 1915

HARBOUR MASTER'S STATEMENT.

Imports—

16,671 tons of coal.. . . .	\$ 1,667 10
76,000 feet of lumber.. . . .	3 80
940 tons merchandise	94 00
	\$1,764 90

Exports—

881 barrels of oil.. . . .	\$ 26 43
1,524 tons of merchandise.. . . .	152 40
1,050 tons of cheese.. . . .	105 00
	283 83

Disbursements	\$2,048 73
	20 10

Deposited to the credit, Harbour Commissioners	\$2,028 63
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All of which is respectfully submitted,

I have the honour to be, sir

Your obedient servant,

GEO. DULMAGE,

Harbour Master.

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APPENDIX NO. 14.

PORT WARDENS' REPORTS FOR THE YEAR ENDING DECEMBER 31, 1913.

REPORT OF THE ANNAPOLIS ROYAL PORT WARDEN.

ANNAPOLIS ROYAL, December 23, 1913.

To the Minister of Marine and Fisheries,
Ottawa.

SIR,—I beg leave to submit to you my report for the past year in connection with my office as port warden of the port of Annapolis Royal. I have not been called upon during the past year to perform any duty in connection with my office. I have, therefore, no receipts to account for, nor any expenditures to make mention of.

Respectfully submitted,

JOSEPH J. MELANSON,

Port Warden for the Port of Annapolis Royal.

REPORT OF THE PORT WARDEN OF THE PORT OF CHATHAM.

CHATHAM, N.B., March 13, 1914.

The Honourable,
The Minister of Marine and Fisheries,
Ottawa.

DEAR SIR,—I have the honour to enclose herewith copy of report of only survey held by me at the port of Miramichi during the season of 1913.

Navigation opened in April and closed in December, and while the number of vessels arriving was considerably above the average, the season was remarkably free from accident.

Yours respectfully,

M. A. GOGGIN,

Port Warden at Chatham, N.B.

5 GEORGE V., A. 1915

REPORT OF THE PORT WARDEN OF THE PORT OF LOUISBURG, N.S.

LOUISBURG, C.B., December 31, 1913.

The Deputy Minister of Marine and Fisheries,
Ottawa, Ont.

SIR,—I beg to submit the following report as port warden for the port of Louis-
burg, N.S., for the year ending December 31, 1913.—

Jan. 10.—SS. <i>Elevyn</i> , survey on ship ashore.....	\$8 00
" 27.—SS. <i>Evelyn</i> , " ship condemned	8 00
" 22.—SS. <i>Maskinonge</i> , plates dented by ice.....	8 00
Feb. 12.—SS. <i>Strathtay</i> , certificate of seaworthiness	8 00
Mar. 4.—SS. <i>Knutsford</i> , survey on ship plates damaged.....	8 00
" 5.—SS. <i>Knutsford</i> , " after repairs	8 00
July 15.—SS. <i>Karmoe</i> , survey after collision.....	8 00
Aug. 13.—SS. <i>Glenaeen</i> , " ship's bow damaged.....	8 00
" 15.—SS. <i>Glenaeen</i> , " after repairs	8 00
Sept. 30.—Sch. <i>John Halifax</i> , survey on deckload.....	8 00
Dec. 15.—SS. <i>Imperial Transport</i> , survey, rivets leaking. ship strained.	8 00
" 17.—SS. <i>Imperial Transport</i> , " after repairs	8 00
" 11.—Sch. <i>Bravo</i> , survey ship ashore	8 00
" 13.—Sch. <i>Bravo</i> , " ship going to ship	8 00
	\$112 00

Yours faithfully,

DONALD J. MATHESON,

Port Warden.

REPORT OF THE PORT WARDEN AT HALIFAX, N.S.

HALIFAX, N.S., January 2, 1914.

The Deputy Minister of Marine and Fisheries,
Ottawa, Canada.

SIR,—I have the honour to submit my report for the year ending December 31, 1913, accompanied by a statement, in duplicate, of the receipts and expenditures during that period.

Surveys have been held on thirteen steamers and four schooners, which arrived at this port in a damaged condition during the year.

The necessary repairs were made to the vessels and those of them bound to other ports, proceeded to their destination, where they have safely arrived.

During the year ending December 31, 1913, there has been shipped from the port of Halifax, to the port of Liverpool, G.B., 647,134 bushels of wheat, 212,971 bushels of flax.

No live stock has been shipped from Halifax during the year 1913.

RECEIPTS AND EXPENDITURES of the port warden at Halifax, N.S., from January 1, 1913, to December 31, 1913.

Dr.		Cr.	
	\$ cts.		\$ cts.
To amount received as fees	2,736 14	By paid assistants and office ex- penses	1,435 36
		" Amount to port warden.....	1,300 78
	2,736 14		2,736 14

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I hereby certify that the above is a true and correct statement of the receipts and expenditures of the port warden at Halifax, N.S., from January 1, 1913, to December 31, 1913.

NEIL HALL,
Port Warden.

REPORT OF MONCTON, N.B., PORT WARDEN.

MONCTON, N.B., January 7, 1914.

To the Honourable,
The Minister of Marine and Fisheries.

SIR,—In pursuance of the provisions of section 899, chapter 113 of the Canadian Shipping Act, I beg to submit my annual return for the year 1913 as port warden for the port of Moncton, N.B.

I beg to report that I have not been called in my official capacity during the year past, no casualties have occurred, or disputes of any kind arisen in the Port of Moncton.

Navigation closed December 27, 1913.

Receipts of office—nil.

I have the honour to be, sir,
Your obedient servant,

R. C. BACON,
Port Warden.

REPORT OF THE PORT WARDEN AT MONTREAL.

MONTREAL, QUE., January 7, 1914.

Honourable JOHN D. HAZEN,
Minister of Marine and Fisheries,
Ottawa, Ont.

SIR,—I have the honour by direction of the council of this board and in compliance with section 31 of the Act governing the port warden's office, 45 Vic., chap. 45, to transmit herewith documents as follows:—

1. Port warden's annual report for the year 1913.
2. Audited statement of receipts and expenditures of the port warden's office for the year ending December 31, 1913.
3. Statement of investments of port warden's surplus funds.

I have the honour to be, sir,
Your obedient servant,

GEO. HADRILL,
Secretary.

5 GEORGE V., A. 1915

REPORT OF PORT WARDEN AT MONTREAL.

MONTREAL, December 31, 1913.

To the President and Council of the Montreal Board of Trade.

GENTLEMEN,—I have the honour to submit the annual report of the business of the port warden's office, with statement of exports, receipts and expenditure for the year 1913.

On Thursday, 10th April, 1913, the river was clear of ice as far as visible from Longue Pointe. The Richelieu and Ontario Companies' ferry steamers *Longueuil*, and *Boucherville* arrived in port.

Monday, 14th April, the ss. *Wacousta*, with cargo of coal from Sydney, C.B., arrived at Quebec.

Tuesday, 15th April, river was reported clear of ice from Montreal to Quebec.

Thursday, 17th April, gulf and river steamers arrive in port.

Saturday, 19th April, 8 p.m. ss. *Wacousta* arrived, first steamship from sea.

Monday, 21st April, the ss. *Sokoto*, the first foreign going steamship arrived.

Wednesday, 23rd April, the canals opened for traffic, when the general business of the port commenced.

The first steamship to enter the gulf of St. Lawrence by the strait of Belle Isle was the Thomson liner ss. *Devona*, which passed Point Amour inward at 8.30 a.m. on the 26th June.

The use of the strait of Belle Isle this season was not so universal or regular as in former years, owing to the uncertainty of the condition, (frequent reports having been received of numerous icebergs and fog prevailing in the straits).

During the season of 1912 the regular sailings of the liners were interfered with by the London Dock strikes, a number of the steamships being tied up in dock with their cargoes on board, this season the same thing has occurred, but not to the same extent, owing to the Dublin Dock strikes.

The only serious accident I have to report this season between Quebec and this port, is the grounding of the ss. *Mount Temple* off Maisonneuve, on 24th September; she was lightened and floated on 26th September, and having discharged all cargo, was put on the floating ship dock where temporary repairs were made, after which she reloaded and proceeded on her voyage.

The construction works in connection with the floating ship dock at Maisonneuve and the shipbuilding slips are progressing rapidly, and they will soon be in position to make permanent repairs on vessels of the largest tonnage.

The season of navigation closed on 29th November with the departure for sea of the ss. *Ruthenia* at 9 a.m. and the ss. *Morwenna* at 2.15 p.m., four days earlier than the close of the season of navigation for 1912.

A total of 478 foreign going steamships reported at this office this season, with a tonnage of 2,033,752 tons, against 415 vessels and 1,790,518 tons last season, an increase of 63 vessels and 243,234 tons.

The business to the lower ports this season consisted of: entered 349 vessels of all classes, with a tonnage of 647,903 tons, against 327 vessels and 617,236 tons, an increase of 22 vessels and 30,667 tons over last season.

Clearances of vessels loaded for the lower ports this season were 100 vessels of all classes, with a tonnage of 75,873 tons, against 104 vessels of 82,331 tons, a decrease of 4 vessels and 6,458 tons from last season.

The shipments of various kinds for the past season manifested and reported at this office are as per attached statements.

All of which is respectfully submitted.

ARCHIBALD REID,

Port Warden.

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COMPARATIVE STATEMENT of Shipments 1912 and 1913 as per manifests reported at the Port Warden's Office.

Description.	1913.	1912.	Increase 1913.	Decrease 1913.
Wheat.....bush.	33,707,331	30,652,672	3,054,659	
Buckwheat.....s	5,208		5,208	
Peas....."	22,732	19,813	2,919	
Barley....."	5,188,228	1,217,548	3,970,680	
Oats....."	7,325,713	6,565,138	760,575	
Corn....."	50,820		50,820	
Flaxseed....."	7,929,115	69,066	7,860,049	
Rye....."	210,804	126,313	84,491	
	54,439,951	38,650,550	15,789,401	
Total increase for the year 1913			15,789,401	
Flour and meal.....brls.	1,915,587	1,761,727	153,860	
Ashes....."	336	415		79
Apples....."	222,814	328,788		105,974
Cheese.....boxes	1,577,013	1,722,950		145,937
Butter.....pkgs.	1,728	70	1,658	
Eggs....."				
Boxmeats....."	162,278	190,601		28,323
Lard....."	702,276	700,645	1,631	
Pulp.....tons.	6,521	6,645		124
Paper....."	13,367	22,636		9,270
Sundries....."	138,455	121,723	16,732	
Hay....."	18,067	39,698		21,631
Oilcake....."	19,546	25,609		6,063
Minerals....."	24,644	16,099	8,545	
Dried grains....."	873	732	141	
Lumber.....ft. b.m.	97,890,047	101,400,889		3,510,842
Cattle.....head	514	6,473		5,959
Horses and mules....."	231	481		250
Sheep....."	269	178	118	

STATEMENT of Oversea or Foreign-going Vessels.

Description.	1913.		1912.	
	No.	Tons.	No.	Tons.
Steamers.....	478	2,033,752	415	1,790,515

Increase of 63 vessels and 243,234 tons.

STATEMENT of Lower Port Arrivals.

Description.	1913.		1912.	
	No.	Tons.	No.	Tons.
Steamers	302	643,536	291	613,826
Sailing vessels.....	47	4,367	36	3,410
	349	647,903	327	617,236

Increase of 22 vessels and 30,667 tons.

CLEARANCES for Lower Ports.

Description.	1913.		1912.	
	No.	Tons.	No.	Tons.
Steamers.....	81	74,058	84	80,438
Sailing vessels.....	19	1,815	20	1,893
	100	75,873	104	82,331
Decrease of 4 vessels and 6,458 tons.				
Revenue, 1912.....				\$9,864 24
Revenue, 1913.....				9,711 98
Decrease.				152 26

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REPORT OF THE PORT WARDEN OF THE PORT OF NANAIMO, B.C.

NANAIMO, B.C., January 2, 1914.

ALEXANDER JOHNSTON, Esq.,
Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit my report of collections made as port warden for the port of Nanaimo, and Departure bay during the past year.

Total amount collected for surveys on vessels	\$27 00
By amount paid for assistance.	6 00
Balance.	\$21 00

I am, sir, your obedient servant;

J. S. KNARSTON,
Port Warden.

REPORT OF THE PORT WARDEN AT NORTH SYDNEY, N.S.

ALEXANDER JOHNSTON, Esq.,
Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—I herewith present my annual report.

SEAWORTHY CERTIFICATES.

SS. *Sargasso*, *Waimate*, *Serrana*, *Cardovia*, *Grenada*, *Lena*, *Aldershot*, *McElwin*,
Santaren, *Lorland*, *Laba*; schooners *Maple Leaf* and *Carmalee*.

Total amount, \$116.

Yours respectfully,

W. H. KELLY,
Port Warden.

REPORT OF THE PORT WARDEN OF PORT HAWKESBURY.

PORT HAWKESBURY, January 2, 1914.

A. JOHNSTON, Esq.,
Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit my annual report of the doings of this office with a statement of the fees collected by me and also the attendant expenses during the past year.

I have the honour to be, sir,

Your obedient servant,

NICHOLAS MARTIN.

5 GEORGE V., A. 1915

1	survey on steamer	<i>Golden City</i>	.. . . .	\$18 00
4	surveys on schooner	<i>Roseway</i>	.. . . .	39 00
1	survey on schooner	<i>Maud Carter</i>	.. . . .	5 00
1	"	<i>Una</i>	.. . . .	5 00
1	"	<i>Blake</i>	.. . . .	18 00
1	"	<i>Albert A. Young</i>	.. . . .	18 00
				\$103 00
Paid J. J. Hennesey, master mariner.. . . .			\$27 00	
" John Langley, master shipwright.. . . .			17 00	
" Edward Dorley, master shipwright.. . . .			5 00	
Balance.. . . .				\$ 49 00
				54 00
				\$103 00

Amount reverting to port warden, \$54.

I hereby certify the above to be correct to the best of my knowledge and belief.

NICHOLAS MARTIN,
Port Warden.

REPORT OF THE PORT WARDEN OF PRINCE EDWARD ISLAND.

CHARLOTTETOWN, P.E.I., April 14, 1914.

A. JOHNSTON, Esq.,
Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—I beg to present you the report of the port warden for Prince Edward Island for the year ending December 31, 1913.

Kindly excuse the crude way I make out this report, for I hardly know what the department requires.

To	survey on	damaged	iron,	September 9.. . . .	\$ 3 00
"	"	"	"	dry goods, September 14.. . . .	1 50
"	"	"	"	repairs, November 21.. . . .	4 00
"	"	"	"	bulkheads, October 1.. . . .	4 00
					\$12 50

I am, sir,

Your obedient servant,

GEORGE H. HOLBROOK,
Port Warden.

REPORT OF THE QUEBEC PORT WARDEN.

QUEBEC, December 30, 1913.

A. JOHNSTON, Esq.,
Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—As requested by the thirtieth section of the port warden's rules, I beg respectfully to submit the following annual statement of the business transacted in this office, during the year ending December 31, 1913.

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Forty-seven steamers were surveyed for clearance outwards, after taking part cargo on board at this port, having previously shipped part cargo of grain and other goods at Montreal.

Ninety steamers were surveyed, their hatches opened and cargoes examined, on their arrival from sea. Three steamers and one yacht were surveyed on account of collision damage.

Five steamers and two steam barges were surveyed on account of grounding and stranding in the river St. Lawrence, below and above Quebec.

Two steamers were surveyed and value estimated for general average purposes.

Four steamers and one steam barge were surveyed for sundry damage.

Nine surveys were held on damaged goods.

The receipts and disbursements of this office are as follows:—

Receipts	\$ 1,341 10
Expenses	284 00
	\$ 1,057 10

With much respect, I remain,

Your obedient servant,

ALEX. RUSSELL,

Port Warden.

REPORT OF THE PORT WARDEN OF THE PORT OF ST. ANDREWS, N.B.

ST. ANDREWS, N.B., January 12, 1914.

A. JOHNSTON, Esq.,

Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—I beg to submit my annual report of the work performed by me during the past year, ending December 31, 1913, in the capacity of port warden for the year.

April 4, surveyed hatches schooner *Anne C. Were*, Captain A. P. Ward, from Boston, with cargo of fertilizer. Found hatches properly caulked, battened, and cargo in good order under hatches.

April 4, surveyed hatches, schooner *Suella*, from Boston, Captain Scott, master. The cargo was fertilizers. I found hatches properly secured and cargo in good order under hatches.

Fees collected, \$5.

I am, sir,

Your obedient servant,

JOHN WREN,

Port Warden.

PORT WARDEN'S REPORT OF SYDNEY, N.S., INTERNATIONAL PIER.

INTERNATIONAL PIER, January 9, 1914.

A. JOHNSTON, Esq.,

Deputy Minister, Marine and Fisheries,
Ottawa.

DEAR SIR,—I herewith beg to hand you my report for the year ending December 31, 1913. I have the honour to remain,

Your obedient servant,

NELSON H. TOWNSEND.

PER J. MC.

5 GEORGE V., A. 1915

Date.	Vessel's Name.	Registered Tonnage.	Amount of Fees.	
			\$	cts.
1913.				
April 26.	Corunna	792	8	00
" 30.	Nevada	744	8	00
May 3.	Brynild	1,843	8	00
" 13.	Prince Rupert	1,172	8	00
" 14.	Fairhead	1,432	8	00
" 19.	Tokoto	1,969	8	00
" 23.	Hormount	1,230	8	00
" 27.	Glenmount	1,246	8	00
June 2.	Corunna	792	8	00
" 4.	Mountsfield	1,547	8	00
" 6.	Lincluden	2,455	8	00
" 10.	Benguela	3,533	8	00
" 13.	Malmstad	2,599	8	00
" 17.	Prince Rupert	1,172	8	00
" 17.	Nevada	744	8	00
" 17.	Almeriana	1,829	8	00
" 19.	Arcidaca Thefano	2,268	8	00
" 23.	Bonlama	1,624	8	00
" 23.	Navigator	797	8	00
" 26.	Thormount	1,230	8	00
" 26.	Corunna	792	8	00
July 2.	Glenmount	1,246	8	00
" 2.	Lingfield	2,614	8	00
" 8.	Herman Weidel Jarlsberg	1,941	8	00
" 8.	Malmanger	858	8	00
" 10.	Myrtle Holme	1,600	8	00
" 16.	Prince Rupert	1,172	8	00
" 19.	Corunna	792	8	00
" 22.	Bjongvin	1,785	8	00
" 29.	Thormount	1,230	8	00
" 29.	Nevada	744	8	00
Aug. 1.	Glenmount	1,246	8	00
" 6.	Trold	2,036	8	00
" 8.	Hildswell	1,610	8	00
" 13.	Corunna	792	8	00
" 14.	Newton Hall	2,678	8	00
" 16.	Prince Rupert	1,172	8	00
" 18.	Almeriana	1,824	8	00
" 25.	Vinland	662	8	00
" 28.	Kadona	2,308	8	00
" 28.	Guernsey	2,808	8	00
" 29.	Kinmount	1,597	8	00
Sept 2.	Glenmount	1,246	8	00
" 4.	Fairmount	1,383	8	00
" 5.	Nevada	744	8	00
" 8.	Westmount	1,175	8	00
" 15.	Eir	2,448	8	00
" 17.	Prince Rupert	1,172	8	00
" 19.	Corunna	792	8	00
" 23.	Stormount	1,230	8	00
" 23.	Bender	2,820	8	00
Oct. 4.	Glenmount	1,246	8	00
" 10.	Nevada	744	8	00
" 14.	Thyra Menier	794	8	00
" 17.	Astarte	717	8	00
" 20.	Grindon Hall	2,365	8	00
" 20.	Dwina	691	8	00
" 21.	Jommerstad	2,508	8	00
" 21.	Georgia B. Jenkins	398	8	00
" 23.	Corunna	792	8	00
" 24.	Knutsford	2,489	8	00
" 24.	Putney Bridge	2,147	8	00
" 27.	Thormount	1,230	8	00
" 31.	Port Colburne	1,305	8	00
" 31.	Karamea	3,553	8	00

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Date.	Vessel's Name.	Registered Tonnage.	Amount of Fees.	
1913.			\$	cts.
Nov. 5.	Benguela	3,533	8	00
" 8.	Queen Wilhelmina	2,306	8	00
" 16.	Nevada	744	8	00
" 16.	Prince Rupert	1,172	8	00
" 18.	Nor.	878	8	00
" 21.	Bnatland	1,473	8	00
Dec. 1.	Berni	2,787	8	00
" 6.	Margerete Gelpcki	1,073	8	00
" 18.	Tyr	1,442	8	00
" 29.	Kwarra	2,303	8	00
		116,025	600	00

REPORT OF THE PORT WARDEN OF VICTORIA AND ESQUIMALT, B.C.

VICTORIA, B.C., January 5, 1914.

A. JOHNSTON, Esq.,

Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour of submitting herewith my report as port warden for the ports of Victoria and Esquimalt, B.C., for the year ending December 31, 1913.

Amount of fees received for surveys on hatches and cargoes of vessels, \$432.50.

I have the honour to be, sir,

Your obedient servant,

CHAS. E. CLARKE,

Port Warden.

REPORT OF THE PORT WARDEN, YARMOUTH, N.S.

A. JOHNSTON, Esq.,

Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit my annual report for the year ending December 31, 1913.

1913.		\$	cts.
Jan. 13.	To survey tugboat <i>Gertrude M</i>	5	00
Mar. 29.	" 2 surveys Yarmouth harbour.	17	50
April 6.	" schooner <i>Agnes G. Donko</i> , leaking, 2 surveys.	16	00
May 26.	" Norwegian ship <i>Frew</i> stranded lower harbour	12	00
" 31.	" total loss ship <i>Frew</i> on Fundy Point, Yarmouth.	13	00
" 7.	" SS. <i>Boston</i> stranded Kelley Cove	13	00
June 4.	" SS. <i>Gerald Turnbull</i> stranded on Gannet rock dry ledge and was total loss.	25	00
Aug. 30.	" SS. <i>Boston</i> struck on passage from Boston to Yarmouth	10	00
Sept. 10.	" SS. <i>Yarmouth</i> stranded Point Digby Gut from St. John, N.B.	25	00
Dec. 24.	" Norwegian bark <i>Poposo</i> struck foul ground, Sallows rock, Yarmouth harbour, 2 surveys.	16	00
		152	50

I am, sir,

Your obedient servant,

R. W. FERGUSON,

Port Warden.

5 GEORGE V., A. 1915

APPENDIX No. 15.

PILOTAGE REPORTS, 1913.

Annual Reports of Pilotage Authorities for the Year 1913. A Summary of Information contained in following Pilotage Reports.

Pilotage District.	Number of Commissions.	Number of Pilots.	Number of Apprentice Pilots.	Number of Vessels paid Pilotage.	Total Receipts. \$ cts.	Amount paid Pilots. \$ cts.	Expenses paid by Pilot Authority. \$ cts.	Remarks.
Baie Verte, N.B.	4	3	None.	8	504 00	478 80	25 20	
Bathurst, N.B.	3	3	"	16	451 17	451 17		
Bras d'Or, N.S.	3	7	"	Not given.	Not given.	Not given.	Not given.	
Buctouche, N.B.	4	3	"	2	65 00	65 00		
Caraque, N.B.	5	9	"	9	66 60	66 60		
Charlotte County, N.B.	3	1	"	11	200 00	200 00		
Halifax, N.S.	6	18	"	1,094	46,133 23	41,880 35	3,526 98	Balance in fund for 1913, \$2,413.35.
Harvey and Alma, N.B.	3	3	None.	18	802 69	697 69		
Louisburg, N.B.	5	8	"	158	5,643 88	4,748 00	\$85 88	Maintenance of boats, \$105.
Minas Basin, N.S.	4	None.	"	.....	Not given.	Not given.	Not given.	No pilots appointed.
Miramichi, N.B.	5	17	"	121	13,825 39	11,638 20	2,187 19	
Montreal, P.Q.	Minister of Marine and Fisheries. 5	51	19	1,237	106,955 33	Not given.	Not given.	See amount paid each pilot in the report, from fund.
Nanaimo, B.C.	7	7	None.	423	16,371 43	13,596 11	2,775 32	Boat hire, wages, station supplies were paid.
New Westminster, B.C.	3	1	"	28	1,036 22	.....	.....	One pilot only. Paid \$150 per month by city corporation.
Parrsborough, N.S.	3	1	"	6	393 50	365 97	27 53	
Pictou, N.S.	5	3	"	43	1,413 63	1,391 42	22 21	
Port Medway, N.S.	3	2	"	2	40 00	40 00		
Prince County, P.E.I.	2	2	"	No account.	Not given.	Not given.		
Pugwash, N.S.	5	5	"	8	668 26	668 26		
Quebec, P.Q.	Minister of Marine and Fisheries. 5	70	22	1,017	152,612 84	125,850 00	32,015 79	Expenditure by P. authority includes pensions out of funds.
Restigouche, N.B.	6	6	None.	114	6,940 08	6,377 99	562 09	
Richibucto, N.B.	5	4	"	5	354 00	350 00	4 00	
Shepody Basin, N.B.	5	4	"	61	1,401 78	1,401 78		

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Shediac, N.B.....	5	3	"	6	388 45	380 69	7 76	Expenditure includes pensions. Expenditure from Fund. Balance in bank, \$2,990.41. Surplus left from 1913, \$1,588.04. The receipts include \$1,200 for P. licenses.
St. Ann's, N.S.....	3	4	"	18	786 00	786 00		
St. John, N.B.....	7	18	3	506	36,312 43	32,594 05	3,718 38	
St. Mary's, N.S.....	4	Not given.	Not given.	1,013	40,540 37	40,540 37	3,733 05	
Sydney, N.S.....	6	32	6	947	43,433 33	29,041 89	13,423 93	
Vancouver, B.C.....	5	7	None.	522	18,375 90	15,597 85	2,778 05	
Victoria and Esquimalt, B.C....	5	4	"	Nil.	Nil.	Nil.		
Wallace	3	2	"					
	124	298	54	7,393	495,715 56	329,208 19		

NOTE.—Amount paid Montreal pilots not given.

5 GEORGE V., A. 1915

ANNUAL REPORTS OF PILOTAGE AUTHORITIES FOR THE YEAR 1913.

OFFICE OF THE GENERAL SUPERINTENDENT OF PILOTAGE FOR CANADA,

OTTAWA, May 1, 1914.

A. JOHNSTON, Esq.,
Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to forward herewith the annual reports of the different Pilotage Authorities throughout the Dominion, which have been forwarded to the department in accordance with section 441 of chapter 113, of the Revised Statutes of Canada, 1906, for the year 1913.

I regret to have to report the position of superintendent of pilots of the Montreal Pilotage District has been made vacant by the death of Captain James J. Riley on January 8 last, after a very short illness.

I am, sir, your obedient servant,

H. ST. G. LINDSAY,
Acting General Superintendent.

REPORT OF THE PILOTAGE COMMISSIONERS OF THE PILOTAGE DISTRICT OF BAIE VERTE AND
PORT ELGIN, N.B.

PILOTAGE COMMISSIONERS.

Names.	When Appointed.
Jacob Allen	O. C. June 25, 1901.
Ignatius Murphy.....	O. C. " 15, 1912.
Louis Gould.....	O. C. " 15, 1912.
Wm. Farquharson	O. C. " 15, 1912.

The rates of pilotage for the time being in force in this district are : Steamers, \$2 per foot inward, \$2 per foot outward ; sailing vessels, \$1.50 per foot inward, \$1.50 per foot outward.

NAMES OF PILOTS AND EARNINGS.

Names.	Age.	Amount earned.	Amount paid to Pilots.
		\$	\$ cts.
Jacob E. Allen.....	48	252 00	239 40
Nelson Tucker.....	42	252 00	239 40
Rob't. Anderson.....			
		504 00	478 80

No white flag ships licensed during the year.

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STATEMENT OF VESSELS WHICH PAID PILOTAGE FEES FOR THE YEAR.

No.	Nationality.	Tonnage.	Amount paid.
			\$ cts.
5	British steam vessels	1,212	325 00
1	British sailing vessels	516	53 00
2	Foreign steam vessels	2,683	126 00

Receipts—	Expenditure—
Pilotage dues..... \$504 00	Expenses—boats..... \$100 00

Pilotage Boats.	Cost of Maintenance.
	\$ cts.
No. 1	50 00
No. 2	50 00

Navigation opened on April 15, and closed January 1, 1914.

CAPE TORMENTINE, N.B., January 15, 1914.

WM. FARQUHARSON,
Secretary.

REPORT OF THE PILOTAGE COMMISSIONERS OF THE DISTRICT OF BATHURST, N.B.

PILOTAGE COMMISSIONERS.

Name.	When appointed.
Henry White.....	O. C. Sept. 20, 1904.....
Thomas Canty	O. C. Aug. 30, 1907.....
John J. S. Hashey	O. C. May 16, 1903.....

The rates of pilotage for the time being in force in this district are as follows :—

SAILING VESSELS.

Inwards : To the forks of the channel	\$1 20 per foot
" above said forks.....	1 40 "
Outwards : From below the forks	80 "
" above the forks	1 00 "

STEAMERS.

In addition to the rates paid by sailing vessels, steamers shall pay one cent per registered or net ton, inwards or outwards ; but shall not be required to pay the additional fee both ways.

The fees for moving a vessel, whether sail or steam, shall be as follows :—

From the ballast ground to loading berth, outside bar.....	\$4 00
From one loading berth to another.....	4 00

5 GEORGE V., A. 1915

NAMES OF PILOTS AND EARNINGS.

Name.	Earnings.
	\$ cts.
William Daly.....	190 89
D. R. Ronalds.....	190 89
Peter Roy.....	69 39
	451 17

STATEMENT of Vessels which paid Pilotage during the year.

No.	Nationality.	Tonnage.	Amount paid.
			\$ cts.
4	British steam vessels, 2 tugs and 2 dredges.....		58 61
5	" sailing ".....	1,569	132 60
7	Foreign steam ".....	4,905	259 76
			450 97

RECEIPTS AND EXPENDITURE.

Receipts.	\$ cts.	Expenditures	\$ cts.
Received pilotage as per statement....	451 17	Paid for inspection of boats.....	3 00
		Paid pilots.....	425 67
		Paid commissioners and secretary.....	22 56
	451 17		451 23

Pilotage boats—No. 1, No. 2 and No. 3, besides having motor power have sails.

Navigation opened April 26, and closed December 17, 1913.

JOSEPH HENDERSON,
Secretary.

BATHURST, N.B.,
March 10, 1914.

SESSIONAL PAPER No. 21

REPORT OF THE PILOTAGE COMMISSIONERS OF THE PILOTAGE DISTRICT OF BRAS D'OR LAKES, N.S.

PILOTAGE COMMISSIONERS.

Names.	When Appointed.
Captain Daniel McRae.....	O. C. August 31, 1906.
Donald H. McRae.....	O. C. August 31, 1906.
George Hallifield.....	O. C. August 31, 1906.

The rates of pilotage in force in this district are as follows:—

SCALE of Pilotage Fees for the Pilotage District embracing the ports, harbours and bays in Bras d'Or Lakes in the Great and Little Bras d'Or belonging to the County of Victoria.

Tonnage.	Big Bras d'Or	Port Devis.	St. Ann's.	Little Narrows.	Grand Narrows to bound- ary line of District.	Baddeck.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
120—200.....	5 00	7 00	7 00	11 00	12 50	8 00
200—250.....	6 00	8 00	8 00	14 00	14 50	11 00
250—300.....	7 00	9 00	9 00	16 00	16 50	12 00
300—350.....	8 00	12 00	12 00	17 00	17 00	12 00
350—400.....	9 00	12 00	12 00	18 00	18 00	13 00
400—450.....	11 00	14 00	14 00	19 00	19 50	15 00
450—500.....	11 00	14 00	14 00	19 00	19 50	15 00
500—600.....	12 00	15 00	15 00	19 00	20 00	16 00
600—700.....	13 00	16 00	16 00	20 00	21 00	17 00
700—800.....	14 00	17 00	17 00	21 00	22 00	18 00
800—900.....	15 00	18 00	18 00	22 00	23 00	19 00
900—1,000.....	16 00	19 00	19 00	23 00	24 00	20 00
1,000—1,500.....	18 00	21 00	21 00	24 00	25 50	22 00
1,500—2,000.....	21 00	24 00	24 00	26 00	27 50	25 00

NAMES AND AGES OF PILOTS.

No.	Name.	When appointed.	Age.
1	Archie Livingstone.....	1894	65
2	Daniel Campbell.....	1894	50
3	George McKay.....	1894	60
4	William Carcy.....	1895	62
5	Ingraham Carcy.....	1897	44
6	Nicholas Murphy.....	1909	53
7	C. S. McNeil.....	1913	44

Navigation opened in April, 1913, closed February 11, 1914.

BADDECK, N.S.,
March 18, 1914.

GEORGE HALLIFIELD,
Secretary.

5 GEORGE V., A. 1915

REPORT OF THE PILOTAGE COMMISSIONERS OF THE PILOTAGE DISTRICT OF BUCTOUCHE, N.B.

PILOT COMMISSIONERS.

Names.	When appointed.	Changes.
John C. Ross.....	O. C. April 28, 1877.....	Died Sept., 1913.
R. H. Foley.....	O. C. " 28, 1877.....	
James McNairn.....	O. C. " 28, 1877.....	
D. T. Landry.....	O. C. July 2, 1887.....	

NAMES OF PILOTS AND AGES.

Names.	Ages.	When appointed.
Joseph Crossman	62	1898
John Mooney.....	39	1907
Peter A. Smith.....	47	1907

VESSELS WHICH PAID PILOTAGE DURING THE YEAR.

No.	Nationality.	Tonnage.	Amount paid.
			\$
1	British vessel, tow boat.....		30 00
1	Foreign vessel.....	350	35 00
			65 00

Pilotage fees are charged as per section 12 of rules and regulations for this district, viz.: one dollar and fifty cents per foot draught of water, both inward and outward bound.

No other compulsory charge in respect to pilotage. When a vessel is taken by pilot over the reef from anchorage ground outside the bar, the charge is five dollars ; but this is not compulsory.

BUCTOUCHE, N.B.

N. J. ROSS,
Secretary.

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REPORT OF THE PILOTAGE COMMISSIONERS OF THE PILOTAGE DISTRICT OF CARAQUET, N.B.

PILOTAGE COMMISSIONERS.

Names.	When appointed.
C. Hubbard.....	O. C. Nov. 11, 1881.
Geo. La Richie.....	O. C. April 6, 1903.
H. Duguay.....	O. C. June 29, 1910.
Charles L. Robichaud.....	O. C. June 20, 1910.
Peter J. Viott.....	O. C. July 7, 1913.

The rates of pilotage for the time being in force in this district are: one dollar and twenty cents a foot inwards, one dollar a foot outwards.

NAMES OF PILOTS, ETC.

Name.	Appointed.	Age.	Earnings.
			\$ cts.
Alex. J. Wilson.....	1897	39	60 60
L. Gauvin.....			6 00
M. LeBouthillier.....			
Charles Vibert.....			
Edward LeBouthillier.....			
Joseph E. LeBouthillier.....			
Pierre E. Bouthillier.....			
James Lantegne.....			
Joseph Chiasson.....			
			66 60

VESSELS WHICH PAID PILOTAGE DURING YEAR.

Number.	Nationality.	Tonnage.
3	British sailing vessels.....	225
1	Foreign steam vessel.....	1,501
5	Foreign sailing vessels.....	719

RECEIPTS AND EXPENDITURES.

Receipts—		Expenditures—	
L. Gauvin.....	\$1 00	Stationery and expenses.....	\$6 00
Theotime Le Bouthillier.....	1 00		
Charles Vibert.....	1 00		
A. J. Wilson.....	1 00		
James Lantegne.....	1 00		
Joseph Chiasson.....	1 00		
	\$6 00		\$6 00

Navigation opened May 1 and closed December 15, 1913.

Caraquet, N.B., February 2, 1914.

C. HUBBARD,
Secretary.

5 GEORGE V., A. 1915

REPORT OF THE PILOTAGE COMMISSIONERS OF THE PILOTAGE DISTRICT OF CHARLOTTE
COUNTY, N.B.

PILOTAGE COMMISSIONERS.

Names.	When appointed.
Samuel Johnson.....	O. C. April 2, 1874.
Jesse Duston.....	O. C. June 8, 1901.
R. H. Keay.....	O. C. February 19, 1907.

Joseph Boyd, the only pilot here, earned \$200 during the year

There were eleven foreign sailing vessels paid pilotage amounting to \$200 during the year.

Navigation is open the whole year round.

St. Andrews, Charlotte County, N.B., April 16, 1914.

R. H. KEAY,
Secretary.

REPORT OF THE PILOTAGE COMMISSIONERS OF THE PILOTAGE DISTRICT OF HALIFAX, N.S.

PILOTAGE COMMISSIONERS.

Names.	When Appointed.
M. C. Grant	O. C. 20 June, 1892.
J. J. Brenner	O. C. 19 March, 1883.
James Hall.....	Appointed by Chamber of Commerce, 27 July, 1904.
Neil Hall	" " 26 November, 1908.
J. E. De Wolf.....	" " City Council, 16 May, 1908.
F. G. Rudolph.....	O. C. 1 October, 1909.

The rates of pilotage at present in force in this district are :—

	Inward.	Outward.
Canadian vessels of 120 tons and under.....	Free.	Free.
Vessels under 200 tons	\$ 9 60	\$ 6 06
" of 200-300.....	13 20	8 40
" 300-400.....	16 80	10 80
" 400-500.....	19 20	12 00
" 500-600.....	21 60	13 20

Vessels of 600 tons and over, sixty cents for every 100 tons additional, or fraction thereof, inwards, and thirty cents outwards.

Outward pilotage for all vessels of 200 tons and upwards, compulsory.

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NAMES OF PILOTS AND EARNINGS.

No.	Names.	When appointed.	Age.	Earnings.
	<i>Boat No. 1—</i>			\$ cts.
6	Frank Thomas.....	1898	36	
7	Bernard Brackett.....	1905	31	
8	William Hayes.....	1898	38	
9	Wallace Bracket.....	1911	27	
10	John Holland.....	1905	31	20,499 20
17	William Gorman.....	1898	40	
18	Charles F. Martin.....	1890	45	
21	Thomas Reyno.....	1884	52	
23	Henry Latter.....	1890	43	
	<i>Boat No. 2—</i>			
2	James G. Renner.....	1911	28	
3	Lamont Power.....	1911	25	
5	L. Hayes.....	1905	34	
11	Edward Renner.....	1911	26	
14	John Hayes.....	1875	62	21,381 15
15	James Spears.....	1882	56	
19	William White.....	1884	54	
20	Thomas Hayes.....	1884	53	
22	Frank Mackey.....	1898	40	

NAMES OF APPRENTICE PILOTS AND EARNINGS.

Names.	When appointed.	Age.	Earnings.
W. Latter.....	1912	23	
C. Hanrahan.....	1912	23	\$592.00
John Brown.....	1912	21	
Walter White.....	1912	23	

STATEMENT OF VESSELS WHICH PAID PILOTAGE FEES FOR THE YEAR.

No.	Nationality.	Tonnage.	Amount paid.
			\$ cts.
934	British steam vessels.....	2,013,496	39,665 85
60	British sailing vessels.....	20,525	1,215 90
87	Foreign steam vessels.....	261,232	4,875 50
13	Foreign sailing vessels.....	3,304	207 30
			45,964 55

STATEMENT OF PENSION OR RELIEF FUND.

Dominion Savings Bank.....	\$ 10,328 23
Dominion bank stock.....	9,212 36
Deposit receipts.....	18,214 75
Royal bank of Canada (current account).....	430 70
	38,186 04

5 GEORGE V., A. 1915

RECEIPTS AND EXPENDITURES.

Receipts—

Balance, Jan. 1st, 1913.....	\$ 1,687 35
Pilotage fees.....	44,540 30
Outward pilotage.....	1,424 25
Commission	168 78

47,820 68
Expenditures—

Paid Pilots.....	\$41,880 35
" Superannuation.....	1,420 96
" Expenses.....	664 06
" Apprentices.....	392 00
" Auditor.....	50 00
" Secretary.....	999 96
Balance, Dec. 31, 1913.....	2,413 35

47,820 68

The pilot boats are maintained by the pilots.
Navigation is open the year round.

HALIFAX, N.S.,
February 9, 1914.

J. W. CRICHTON,
Secretary.

REPORT OF THE PILOTAGE COMMISSIONERS OF THE PILOTAGE DISTRICT OF HARVEY AND ALMA, N.B.

COMMISSIONERS.

Names.	When appointed.
M. C. Anderson .. .	O. C. June 29, 1901.
Rainsford Butland .. .	O. C. March 16, 1912.
Ira Copp.....	O. C. March 16, 1912.

The Rates of Pilotage for the time being in force in this district, are as follows:

Port of Harvey inwards, one cent per registered ton.
Port of Harvey outwards, one and one-half cents per registered ton.
Port of Alma inwards, one and one-half cents per registered ton.
Port of Alma outwards, one and three-quarter cents per registered ton.

No.	Names of Pilots.	When appointed.	Age.	Amount earned.
				\$ cts.
1	Captain Arthur Edgett.....	April 8, 1913.....	52	314 62
2	David Alexander.....	April 8, 1913.....	58	210 96
3	Captain Medford Dixon .. .	April 8, 1913.....	32	277 11
				802 69

There are no apprentices in this district.
No white flag ships were licensed during the year.

SESSIONAL PAPER No. 21

STATEMENT of vessels which paid pilotage during the year.

No.		Tonnage.	Amount paid.
			\$ cts.
7	British steam vessels	10,955	290 97
8	Foreign steam vessels	14,453	430 72
3	Foreign sailing vessels	1,211	81 00
			802 69

Pilotage boats and statement of cost.—

Bertha	\$50 00
No. 1 boat	30 00
No. 2 "	25 00

Navigation opened March 15 and closed January 15, 1913.

NEW HORTON, N.B.,
January 7, 1914.

M. C. ANDERSON,
Secretary.

REPORT OF THE PILOTAGE COMMISSIONERS OF THE PILOTAGE DISTRICT OF LOUISBOURG, N.S.

PILOTAGE COMMISSIONERS.

Name.	When Appointed.
Thomas Townsend	O. C. Sept. 10, 1898.
W. W. Lewis	O. C. " Feb. 25, 1907.
Michael Pope	O. C. Sept. 26, 1908.
John Dickson	O. C. May 28, 1911.
Daniel Townsend	

The Rates of Pilotage Dues in force in this District are as follows :

	Inward.	Outward.
On sail and steamship of 80 tons to 120.	\$ 4 00	\$ 3 00
" " 120 " 200.	6 00	4 00
" " 200 " 300.	7 00	5 00
" " 300 " 400.	8 00	6 00
" " 400 " 500.	10 00	8 00
" " 500 " 700.	11 00	9 00
" " 700 " 1,000.	13 00	11 00
" " 1,000 " 1,500.	15 00	12 00
" " 1,500 " 2,000.	16 00	14 00
" " 2,000 " 2,500.	18 00	16 00
" " 2,500 " 3,000.	22 00	18 00

5 GEORGE V., A. 1915

NAMES OF PILOTS AND EARNINGS.

No.	Name.	When Appointed.	Age.	Amount Earned.
1	Pierce Pope.....	May 7, 1912.....	41	\$ 593 50
2	Thomas Wilcox.....	" 7, 1913.....	50	593 50
3	John Power.....	" 7, 1912.....	53	593 50
4	J. E. Tutty.....	" 7, 1913.....	54	593 50
5	W. H. Townsend.....	" 7, 1913.....	68	593 50
6	Wm. Williams.....	" 7, 1912.....	45	593 50
7	Lewis Tutty.....	" 7, 1913.....	44	593 50
8	John Kelly.....	Mar. 1, 1913.....	52	593 50
				4,748 00

There are no apprentices in this district.

No white flag ships were licensed in the year.

STATEMENT OF VESSELS WHICH PAID PILOTAGE DURING THE YEAR.

No.	Nationality.	Tonnage.	Amount Paid.
			\$ cts.
117	British steam vessels.....	227,338	4,157 70
11	" sailing vessels.....	2,855	114 20
28	Foreign steam vessels.....	62,467	1,050 98
2	" sailing vessels.....	575	30 00
158			5,352 88

Receipts.		Expenditures.	
	\$ cts.		\$ cts.
British steam vessels.....	4,157 70	Commission and stationery....	206 32
" sailing vessels.....	114 20	Other bills to maintain service.....	689 56
Foreign steam vessels.....	1,050 98	Paid pilots.....	4,748 00
" sailing vessels.....	30 00		
Docking ships.....	96 00		
Taking orders to ships.....	40 00		
Detained on quarantine.....	30 00		
Coast piloting.....	125 00		
	5,643 88		5,643 88

There are seven pilot boats ready for use.

Navigation is open all the year round.

THOMAS TOWNSEND,

Secretary.

LOUISBURG, C.B., December 31, 1913.

SESSIONAL PAPER No. 21

REPORT OF THE PILOTAGE COMMISSIONERS OF THE PILOTAGE DISTRICT OF MINAS BASIN AND
AVONPORT, N.S.

PILOTAGE COMMISSIONERS.

Names.	When appointed.
Captain Stephen Smith	O. C. April 9, 1907.
Captain R. Lawrence	O. C. Feb. 26, 1910.
Brenton Borden	O. C. April 9, 1907.
Capt. William McCullough	O. C. April 24, 1912.

The rates of pilotage for the time being in force in this district are, as follows.

	Inward.	Outward.
Canadian vessels of 120 tons and under.....	Free.	Free.
From the pilot boat anchored in the Basin of Minas to Walton and anywhere between Walton and Tenecape, to Cheverie, to Summerville, to Avondale, to Miller's Creek, to Wentworth, to Windsor, to Hantsport, to Avonport, to Horton Landing, to Woltville, to Port William, to Picket Wharf, to Canning, to anchorage below or above Horton Bluff Light, on vessels under sail, barges in tow or steamers—		
On vessels over 120 tons and under 200 tons	\$ 9 60	\$ 6 00
" 200 " 300	13 20	8 40
" 300 " 400	16 80	10 80
" 400 " 500	19 20	12 00
" 500 " 600	21 60	13 20

Over 600 tons, inward, an additional three cents for every ton over 600 tons; outwards, an additional two cents for every ton over 600 tons.

From the pilot boat anchored in Minas Basin to Pereaux, to Kingsport and Mill Creek—

	Inward.	Outward.
On vessels of 120 tons and under.....	Free.	Free.
On vessels under sail, barges in tow or steamers—		
Over 120 tons and under 200 tons.....	\$ 8 00	\$ 5 00
" 200 " 300	11 00	7 00
" 300 " 400	14 00	9 00
" 400 " 500	16 00	10 00
" 500 " 600	18 00	11 00

Over 600 tons, inwards, an additional two cents for every ton above 600 tons; outwards, an additional two cents for every ton above 600 tons.

There are no apprentices in this district.

No white flag ships were licensed during the year.

Navigation opened in April and is still open.

BRENTON BORDEN,

Secretary.

Janauary 13, 1914.

5 GEORGE V., A. 1915

REPORT OF PILOTAGE COMMISSIONERS FOR THE DISTRICT OF MIRAMICHI, NORTHUMBERLAND
COUNTY, N.B.

PILOTAGE COMMISSIONERS.

Name.	When appointed.
John C. Miller.....	O. C. April 12, 1893.
Wm. B. Snowball.....	" 12, 1893.
Ernest Hutchison.....	" 12, 1893.
Allan Ritchie.....	" 12, 1893.
John P. Burchill.....	O. C. March 7, 1913.
Byron N. Call, secretary.....	O. C. Jan. 13, 1904.

The rates of pilotage for the time being in force in this district, including the amounts and description of all charges upon shipping made in respect of pilotage are as follows:—

When inward bound, \$2.25 per foot, and in addition to the above for all vessels propelled wholly or in part by steam, 2 cents per registered ton.

When outward bound, \$2 per foot, and in addition to the above for all vessels propelled wholly or in part by steam, 2 cents per registered ton.

For the removal and mooring of vessels of over 300 tons, \$4, and where the distance of removal exceeds four miles, 50 per cent additional on the above rate.

Removal within a distance of one mile is not compulsory, but when pilots are requested to perform this service the charge is \$4.

Steam tug boats towing one or more barges with cargo, inward, may depart outward after having paid full pilotage for the tug and barges inward, without paying any outward pilotage, except on the tug.

Compulsory pilotage on all vessels over 119 registered tons.

NAMES OF PILOTS AND EARNINGS.

No.	Name.	When appointed.	Age.	Amount earned.	Amount paid to.
				\$ cts.	\$ cts.
2	Louis Jimmo.....	May 29, 1875.....	59	815 13	645 11
7	Maxime Martin.....	July 10, 1869.....	68	815 13	675 09
10	Alexander Wilson.....	July 10, 1871.....	67	815 13	675 09
11	Robert J. Walls.....	Jan. 12, 1870.....	62	815 13	709 55
22	William Walls, sr.....	April 20, 1875.....	59	815 13	675 09
27	James Nowlan.....	April 28, 1877.....	62	815 13	675 09
29	George Sutton.....	April 28, 1878.....	62	815 13	645 10
30	James A. Nowlan.....	April 28, 1878.....	58	815 13	645 10
32	Joseph Jimmo.....	April 28, 1879.....	58	815 13	645 10
33	James McCallum.....	April 28, 1880.....	69	815 13	645 10
35	John Martin.....	April 28, 1880.....	54	815 13	645 09
36	Asa Walls.....	June 23, 1880.....	54	815 13	675 08
37	William Walls, jr.....	May 20, 1882.....	56	815 14	675 09
38	John Nowlan.....	June 21, 1872.....	57	815 14	675 09
41	Michael J. Jimmo.....	Nov. 1, 1899.....	46	797 85	770 81
42	George M. Nolan.....	Nov. 2, 1899.....	57	803 85	776 81
44	George Savoy.....	Mar. 10, 1871.....	69	811 85	784 81
				13,925 39	11,638 20

There are no apprentice pilots in this district.
No white flag ships were licensed during the year.

STATEMENT OF VESSELS WHICH PAID PILOTAGE FEES FOR THE YEAR.

No.	Nationality.	Tonnage.	Amount paid.
			8 cts.
45	British steam vessels	82,321	6,406 64
18	" sailing vessels.	6,526	1,040 46
34	Foreign steam vessels	63,371	5,035 39
24	" sailing vessels.	9,120	1,242 90
121		160,338	13,725 39

EXPENDITURES.

Inward pilotage	\$ 6,259 25	Printing pilot forms and bill heads.....	\$ 8 76
Outward "	7,136 14	Francis Martin's share in pilot schooners.....	127 58
Removals	330 00	Telephone, rental and tolls.....	25 10
Robert J. Walls, payment as pilot master	100 00	Rent pilots' office, one year to Apr. 1914.....	24 00
		Miramichi Steam Moving Co., fares.....	11 00
		Sundries, pilots' office.....	6 29
		Horse-hire, pilots to and from vessels.....	2 00
		Repairs to and fitting out Schr. Princess Louise	222 73
		Repairs and fitting out Schr. Senator Snowball	589 85
		Wages and provisions, Schr. Princess Louise	311 54
		Wages and provisions, Schr. Senator Snowball.....	439 43
		Secretary-Treasurer, postage and tolls.. " commission on	3 90
		\$13,825.39 at 3 p.c.....	414 76
		Paid 14 pilots \$9,305.77 and 3 pilots \$2,332.43.....	11,638 20
	<u>\$13,825.39</u>		<u>\$13,825 39</u>

Pilotage Boats.	Statement of cost of Maintenance.	Amount.
		\$ cts.
Princess Louise.	Wages, provisions, fitting out and repairs.....	534 27
Senator Snowball.....		1,029 28
Mabel.....	Paid by "three pilots independent" of club.....	
		1,563 55

Dated at NEWCASTLE, N.B., December 16, 1913.

5 GEORGE V., A. 1915

REPORT OF MONTREAL PILOTAGE.

THE PILOTAGE OFFICE AT MONTREAL, January 12, 1914.

ALEXANDER JOHNSTON, Esq.,

Deputy Minister, Marine and Fisheries Department,
Ottawa, Ont.

SIR,—I have the honour to report on the working of the Montreal pilotage for the year, 1913.

The offices in Montreal are situated on the waterfront, at No. 209 Commissioners street; Captain James J. Riley is the superintendent, Mr. J. Omer Michaud is the assistant, Mr. F. X. Chadillon is the messenger, and Mr. Chs. Perreault is the night guardian; Mr. C. Lafresnière was guardian on the Sundays that the canal was open.

The offices in Montreal are open during the whole of the year, but the night guardian is only employed and paid for the season of navigation.

The offices in Quebec are on Dalhousie street, opposite the office of the Quebec pilots and the boatman's landing.

Mr. F. J. Boulay had charge of the Quebec office, and was assisted by Mr. Léandre Frenette and Mr. Prudent Beaudet, who acts as night guardian.

The Quebec office is only open during the season of navigation; the night guardian goes off duty and pay at the close of navigation.

At the close of last year, the number of pilots on the active service list was (50) fifty, but this year, Appendix List No. 1 shows (51) fifty-one which is explained as follows:—

“Branch Pilot Barthélemi Arcand (No. 18) was suspended on the 28th May, 1913, the vacancy was filled by Apprentice Pilot J. A. Mayrand being promoted to branch pilot on the 16th September, 1913, so the number of branch pilots remain at (50) fifty.”

Appendix No. 1 shows the names of the branch pilots, their age, place of residence, date of branch, remarks, number of trips to and from Montreal, number of trips to and from intermediate ports, total number of trips, earnings to Montreal, earnings to intermediate ports, total earnings, how employed, whether on special service or on tour-de-role.

The total amount shown as earned by the branch pilots during this year was \$106,955.38, but this amount does not include the money earned by the pilots for moving vessels in the harbour.

The largest amount earned during the season 1913 by any one branch pilot was \$3,079.93, and the smallest was \$997.10, exclusive of money earned by moving vessels in the harbour.

The number of branch pilots assigned to special service was (35) thirty-five. The number of men on tour-de-role was (15) fifteen.

The amount earned by the (35) thirty-five special service men was \$85,368.34, and by the (15) fifteen tour-de-role men \$21,587.04, an average of \$2,439.10 for each special service pilot, and \$1,439.13 for each tour-de-role pilot, exclusive of money earned by moving vessels in the harbour; but including the money earned by the tour-de-role men for movages, their average is \$1,615.47.

No account is taken of the money earned by the special service pilots for movages, but it may be said to be \$100 each.

Appendix No. 2 shows the earnings of the tour-de-rôle pilots for the years 1912 and 1913.

The behaviour of the pilots has been generally good.

Appendix No. 3 shows the names of the selected apprentices, and a summary of the work done by them.

SESSIONAL PAPER No. 21

Appendix No. 4 shows full list of apprentice pilots, with their ages, place of residence, and date of license, the names with an asterisk before them are those of the four selected apprentices.

The behaviour of these young men has been generally good.

Appendix No. 5 shows the names of the persons who are receiving pensions from the Pilots Superannuation Fund, and the amount received by each, every three months.

The Pilots Superannuation Fund is in the custody and under the control of the Finance Department in Ottawa. This office remits to the Finance Department all moneys received for account of the fund, and receipts for all moneys received from the fund.

Appendix No. 6 shows the number and sort of vessels reported to this office during 1912 and 1913; also gives the tonnage, total number of crews, and the number of inward passengers.

Appendix No. 7 shows the changes that have taken place in the list of pilots from the time that the Department took over the governance of the pilotage up to the present time.

Appendix No. 8 shows the tariff of rates for pilotage in this district, also copy of Order in Council amending the tariff of sea-going vessels from \$2.50 to \$3 per foot, of which a copy is attached to the Appendix No. 8.

The annual general meeting of the Montreal Pilots Association was held at Deschambault, and the following named officers were elected for the year 1914: Wilbrod Gauthier, president; Albéric Angers, vice-president; P. Arthur Arcand, secretary; Albert Gagnon and Frenette J. Delavoie, members of committee.

All respectfully submitted by

Your obedient servant,

J. O. MICHAUD,

Assistant to Superintendent of Pilots.

APPENDIX No. 1.

BRANCH PILOTS FOR AND ABOVE THE HARBOUR OF QUEBEC.

STATEMENT showing the number of Branch Pilots for and above the Harbour of Quebec, during the year 1913, their Age, Residence, number of Pilotages, Earnings, and whether employed on Special Service or Tour-de-rôle.

Number.	Name of Pilot.	Age.	Residence.	Date of Branch.	Remarks.	Number of trips to Montreal.		Number of trips to Intermediate Ports.		Total number of Trips.	Earnings to Montreal.	Earnings to Intermediate Ports.		Total Earnings.	Employed on Special Service or Tour-de-Rôle.
						In.	Out.	In.	Out.	In.		\$	cts.		
1	Auger, S. Cleophas	68	Pointe Lévis, P. Q.	Sept. 22, 1874.		13	14			27	1,849 17			1,849 17	Donaldson, Thomson, Cairn, Cunard Lines.
2	Labranche, Ferdinand	67	Portneuf, P. Q.	Apr. 8, 1875.		18	17	2	2	20	1,432 68	91	88	1,524 56	Tour-de-Rôle.
3	Bouille, Louis Z.	64	Deschambault, P. Q.	Jan. 16, 1878.		12	13			25	1,626 59			1,626 59	C.P.R. Atlantic SS. Lines.
4	Gauthier, Laurent	63	"	Dec. 10, 1879.		21	17	38	38	38	2,893 46			2,893 46	Allan Line.
5	Nault, Delavoie.	60	"	" 10, 1879.		27	26			52	2,655 99			2,655 99	Dominion Coal Co.
6	Gauthier, Wilbrod	61	"	" 10, 1879.	President of committee.	22	16			38	2,882 75			2,882 75	Allan Line.
7	Arand, Norbert.	61	Champlain, P. Q.	Dec. 10, 1880.		24	23	2	2	51	2,339 29	139	57	2,478 86	Dominion Coal Co.
8	Bouille, Tancrede.	60	Deschambault, P. Q.	" 10, 1880.		13	23			36	2,710 94			2,710 94	Allan Line.
9	Raymond, Wilfrid	59	"	Apr. 20, 1888.		16	16			32	2,253 16			2,253 16	Donaldson, Thomson, Cairn, Cunard Lines.
10	Hurteau, Joseph P.	53	104 Parc LaFontaine, Montreal.	Mar. 20, 1889.		23	30	3	3	59	2,572 03	183	42	2,755 45	Dominion Coal Co.
11	Perreault, Edouard	64	Deschambault, P. Q.	" 29, 1889.		21	21			42	2,654 14			2,654 14	Manchester & Furness White Lines.
12	Dussault, Honore.	60	Ste. Petronille, P. Q.	July 16, 1889.		16	6	1	1	24	950 72	46	38	997 10	Tour-de-Rôle.
13	Briere, Arthur.	57	Portneuf, P. Q.	Apr. 28, 1891.		18	18			36	2,220 55			2,220 55	Head, MacLay & Melnyre Lines.
14	Perreault, Alexis	51	553 Marie Anne St., Montreal.	" 28, 1891.		13	13			26	1,918 34			1,918 34	Canadian Northern SS. Lines.
15	Dufresne, Come.	53	Deschambault, P. Q.	June 28, 1891.		22	20			42	3,079 93			3,079 93	White Star Dominion, Canada, Austro-Americana & La Compagnie Generale Transatlantique.

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16 Naud, Aubert.....	60	"	July 11, 1893.		16 16		32	2,138 53	2,138 53	2,138 53	Allan Line.	Thomson, Cairn,
17 Dussault, Napoleon....	53	"	Apr. 3, 1894.	.....	16 17	.....	33	2,320 93	2,320 93	2,320 93	Donaldson, Cunard Lines.	
18 Arcand, Batthelemi....	53	"	" 3, 1894.	.....	16 1	.....	3	154 25	154 25	154 25	25 Tour-de-Role. <i>Suspended May 23, 1913.</i>	
19 Bellisle, Prudent	51	692 St. Antoine St., Montreal.	" 3, 1894.	.....	25 25	2	5 57	9,299 24	243 20	243 20	Dominion Coal Co.	
20 Arcand, Georges	49	Deschambault, P.Q.	" 3, 1894.	.....	22 21	.....	43	1,476 27	.....	.....	Merchants' Mutual & Anticosti Inland Lines.	
21 Toupin, Constant.....	47	Three Rivers, P.Q.	" 3, 1894.	.....	19 11	2	4 36	1,137 55	241 36	241 36	Tour-de-Role.	
22 Perreault, Georges.....	48	1521 Bordeaux St., Montreal.	Sept. 11, 1894.	.....	18 23	.....	41	2,987 76	.....	.....	White Star Dominion, Canada, Austro-Americana & La Compagnie Generale Transatlantique.	
23 Bouille, Narcisse.....	54	Deschambault, P.Q.	Oct. 9, 1894.	.....	21 21	1	.....	2,663 95	35 58	35 58	Manchester, Furness, White Lines.	
24 Leveille, Joseph	50	Batiscan, P.Q.	June 18, 1895.	.....	17 16	.....	33	2,218 31	.....	.....	Donaldson, Thomson, Cairn, Cunard Lines.	
25 Perron, Severre.	56	115 Chr. Colomb Ave., Montreal.	Apr. 14, 1896.	.....	26 28	1	2 57	2,560 30	84 37	84 37	Dominion Coal Co.	
26 Angers, Alberic.....	39	Ste. Anne de la Parade, Montreal.	Mar. 14, 1898.	Member of committee.	23 18	.....	41	3,044 94	.....	.....	White Star Dominion, Canada, Austro-Americana & La Compagnie Generale Transatlantique.	
27 Belisle, Arthur	51	Deschambault, P.Q.	Sept. 20, 1898.	.....	16 19	2	2 39	1,281 05	98 00	98 00	Tour-de-Role.	
28 Hamelin, G. Theodule.	40	Grondines, P.Q.	" 20, 1898.	.....	28 25	1	1 55	2,655 41	67 96	67 96	Dominion Coal Co.	
29 Perreault, Anthyme....	45	44 St. Vincent St., Montreal.	May 1, 1900.	.....	6 38	.....	1 45	1,547 03	17 50	17 50	Tour-de-Role.	
30 Raymond, J. N.	44	Deschambault, P.Q.	Oct. 4, 1900.	.....	19 28	2	2 51	1,815 55	126 30	126 30	" Dominion Coal Co.	
31 Bourassa, Jos. Henri.	36	Bienville, Levis, P.Q.	Apr. 16, 1901.	.....	26 25	.....	1 52	2,486 80	44 07	44 07	Nova Scotia Steel and Coal Co., then Tour-de-Role.	
32 Paquin, E. A.	41	18 Du Pont St., Quebec.	June 13, 1902.	.....	17 12	7	4 40	1,248 80	353 73	353 73	White Star Dominion, Canada, Austro-Americana & La Compagnie Generale Transatlantique.	
33 Labranche, J. Melville.	38	Portneuf, P.Q.	" 13, 1902.	.....	19 21	.....	40	2,650 51	.....	.....	White Star Dominion, Canada, Austro-Americana & La Compagnie Generale Transatlantique.	
34 Paquet, Damien	40	Grondines, P.Q.	Feb. 4, 1903.	.....	20 21	1	2 44	1,513 39	87 20	87 20	Tour-de-Role.	
35 Gariépy, J. Arthur	35	Bienville, Levis, P.Q.	Apr. 20, 1903.	.....	23 23	3	5 56	2,256 61	265 05	265 05	Dominion Coal Co.	
36 Gagnon, Albert	39	Three Rivers, P.Q.	Nov. 30, 1903.	.....	16 14	6	3 39	1,173 61	264 70	264 70	Tour-de-Role.	
37 Frenette, J. Oswald....	38	Portneuf, P.Q.	Mar. 26, 1906.	.....	23 21	3	3 50	2,138 58	193 81	193 81	Dominion Coal Co.	
38 Hamelin, Chas. B.	34	Champlain, P.Q.	June 8, 1906.	.....	12 16	.....	28	1,750 80	.....	.....	Elder Dempster Co. and The New Zealand Shipping Co. Lines.	
39 Perron, Tancrede	36	38 Orleans St., Maison-neuve, Montreal.	Dec. 1, 1906.	Member of committee.	16 19	.....	35	2,316 88	.....	.....	Donaldson, Thomson, Cairn, Cunard Lines.	
40 Frenette, J. Delavoie....	36	Portneuf, P.Q.	Apr. 1, 1907.	.....	20 22	.....	1 43	2,825 17	47 25	47 25	C.P.R. Atlantic SS. Lines.	
41 Hamelin, Fortunat....	35	St. Romuald, or New Liverpool, P.Q.	" 20, 1907.	.....	18 18	.....	36	2,411 78	.....	.....	Allan Line.	
42 Gauthier, J. Cyriac....	34	2160 St. Denis St., Montreal.	July 3, 1907.	.....	22 21	.....	43	2,872 90	.....	.....	C.P.R. Atlantic SS. Lines.	

STATEMENT showing the number of Branch Pilots for and above the Harbour of Quebec, during the year 1913, their Age, Residence, number of Pilotages, Earnings, and whether employed on Special Service or Tour-de-rôle—Continued.

Number.	Name of Pilot.	Age.	Residence.	Date of Branch.	Remarks.	Number of trips to Montreal.		Number of trips to Intermediate Ports.		Earnings to Montreal.		Earnings to Intermediate Ports.		Total Earnings.		Employed on Special Service or Tour-de-Rôle.
						In.	Out.	In.	Out.	\$	cts.	\$	cts.	\$	cts.	
43	Angers, J. B.	33	Ste. Anne de la Parade, Que.	" 7, 1907.	.....	22	14	2	1	1,375	77	88	38	1,464	15	Tour-de-Rôle.
44	Perreault, David J.	34	22a Boulevard, Three Rivers, Que.	Jan. 15, 1909.	.....	23	13	1	1	1,779	75	80	06	1,858	81	{ Tour-de-Rôle, The from Nov. 1 C.P.R. Atlantic SS. Lines.
45	Lachance, Napoleon.	30	26 Conroy St., Quebec.	June 4, 1909.	Member of committee.	21	12	3	2	1,231	31	138	37	1,439	68	Tour-de-Rôle.
46	Bouille, Henri.	29	Deschambault, P.Q.	" 30, 1909.	Secretary of committee.	20	19	..	1	1,518	45	23	44	1,541	89	"
47	Perron, Theode.	32	Sorel, P.Q.	Aug. 1, 1909.	.....	32	30	..	..	2,160	91	..	..	2,160	91	Merchants Mutual & Anticosti Inland Lines.
48	Dussaul, Bona.	33	St. Marc des Carrieres, Que.	May 2, 1910.	.....	12	12	..	..	1,424	46	..	..	1,424	46	Manchester & Furness White Lines.
49	Arcand, J. Arthur.	31	ChAMPLAIN, P.Q.	Aug. 2, 1910.	.....	27	26	2	4	2,519	40	177	24	2,696	68	Dominion Coal Co.
50	Rivard, F. X.	33	Grondines, P.Q.	Apr. 10, 1911.	.....	20	18	..	3	1,308	44	66	95	1,375	39	Tour-de-Rôle.
51	Mayrand, Joseph A.	31	Lachevrotière Station, Que.	Sept. 16, 1913.	.....	2	9	..	1	317	25	27	19	344	44	"
											103,702	38	3,353	00	106,955	38

Montreal Pilotage Office,
MONTREAL, December 31, 1913.

J. O. MICHAUD,
Assistant Superintendent of Pilots.

SESSIONAL PAPER No. 21

APPENDIX No. 2.—Montreal Pilotage Office.—Earning for each Tour-de-rôle Pilot for the years 1912 and 1913.

Name of Pilot.	Total Earnings in 1912.	Pilotage Earnings in 1913.	Add for Movings in 1913 Approximately.	Total Earnings in 1913.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Labranche, Ferdinand	923 00	1,524 56	145 00	1,669 56
Dussault, Honoré	863 87	997 10	.....	997 10
Arcand, Barthélemi	1,019 45	154 25	20 00	174 25
Toupin, Constant	935 69	1,378 91	185 00	1,563 91
Bélisle, Arthur	943 60	1,379 05	185 00	1,564 05
Perrault, Anthyme	1,263 53	1,544 53	540 00	2,084 53
Raymond, J. N.	1,336 78	1,941 85	380 00	2,321 85
Paquin, E. A. ....	.....	1,602 53	95 00	1,697 53
Paquet, Damien	1,037 82	1,600 59	115 00	1,715 59
Gagnon, Albert	1,224 22	1,438 31	170 00	1,608 31
Angers, J. B.	1,319 60	1,464 15	140 00	1,604 15
Perrault, David J. ....	.....	1,859 81	75 00	1,934 81
Lachance, Napoléon	1,122 48	1,439 68	160 00	1,599 68
Bouillé, Henri .....	.....	1,541 89	170 00	1,711 89
Rivard, F. X.	931 75	1,375 39	130 00	1,505 39
Mayrand, Joseph A. ....	.....	344 44	135 00	479 44
Total	12,921 79	21,587 04	2,645 00	24,232 04

J. O. MICHAUD,

Assistant to Superintendent of Pilots.

MONTREAL, December 31, 1913.

5 GEORGE V., A. 1915

APPENDIX No. 3.—Montreal Pilotage Office.—Selected Apprentice Pilots for and above the Harbour of Quebec,—Summary of the work of the Selected Apprentice Pilots for and above the Harbour of Quebec, showing the number of trips made with Branch Pilots on Ocean Steamers during the year, 1913.

No.	Name.	Trips.	
1	Joseph Mayrand.....	41	Branched, <i>pro tem</i> , from Sept. 16, 1913.
2	Jules Briere.....	51	
3	Napoleon deVillers.....	54	
4	Achille Gosselin.....	68	Promoted from September 16, 1913.
5	Armand Marchand.....	44	

J. O. MICHAUD,

Assistant to Superintendent of Pilots.

MONTREAL, December 31, 1913.

APPENDIX No. 4.—Montreal Pilotage Office.—List of Apprentice Pilots.—For and above the Harbour of Quebec, with particulars regarding them, Age, Residence, and Date of License.

No.	Name of Apprentice.	Age.	Residence.	Date of License.
1	Mayrand, Joseph A.	31	Lachevrotière (branched Sept. 16, 1913)	Aug. 16, 1899
*2	Brière, Jules.....	27	Portneuf, Que.....	Dec. 30, 1903
*3	deVillers, Napoléon.....	27	Lotbinière, Que.....	" 30, 1903
*4	Gosselin, Achille.....	28	Deschambault, Que.....	" 30, 1903
*5	Marchand, Armand.....	27	Three-Rivers, Que.....	" 30, 1903
6	Paquette, Donat.....	29	Grondines, Que.....	" 30, 1903
7	Lacroix, Edmond.....	28	Contrecoeur, Que.....	" 30, 1903
8	Houde, Thomas.....	27	St. Antoine de Tilly, Que.....	" 30, 1903
9	Marchand, Cyprien.....	27	1563 St. André St., Montreal, Que.....	" 30, 1903
10	Naud, Emilien.....	27	Deschambault, Que.....	" 30, 1903
11	Perreault, Jos. Origène.....	27	553 Marie Anne St., Montreal, Que.....	Nov. 1, 1906
12	Perron, Oscar.....	26	Deschambault, Que.....	May 15, 1907
13	deVillers, Jos. Edmond.....	26	St. Louis de Lotbinière, Que.....	June 15, 1907
14	Beaudry, François.....	23	Ste. Anne de la Pêrade, Que.....	May 5, 1908
15	Léveillé, Horace.....	22	Batiscau, Que.....	" 5, 1908
16	Gauthier, André.....	21	Deschambault, Que.....	Sept. 17, 1908
17	deVillers, Arthur.....	23	St. Louis de Lotbinière, Que.....	May 10, 1909
18	deLachevrotière, C. Auguste.....	23	Lotbinière, P.Q.....	Aug. 31, 1909
19	Hallé, Alphonse.....	20	195 Queen st., Quebec, Que.....	Oct. 14, 1909

* Those with an asterisk before their names are the selected apprentices.

J. O. MICHAUD,

Assistant to Superintendent of Pilots.

MONTREAL, December 31, 1913.

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APPENDIX No. 5.—List of Pensioners of the Montreal Decayed Pilots Fund.—Amount payable each Quarter.

No.	Name.	Amount.	Residence.
		\$ cts.	
1	Widow David L. Bouillé.....	29 33	Deschambault, Que.
2	" Alexis Gauthier	32 00	"
3	" Octave J. Hamelin	37 33	"
4	" Adolphe Lisé	37 33	369 St. Catherine St., E., Montreal.
5	" David Mathieu	32 00	77 Fabre st., Montreal.
6	" Edouard Naud	32 00	189 Joliette st., Hochelaga, Montreal.
7	" Jean Nault	32 00	Deschambault, Que.
8	" Elzéar Bellisle	37 33	178 Selby ave., Westmount, Montreal.
9	" Zéphirin Bouillé	37 33	Deschambault, Que.
10	" Cyrille Belisle	29 33	40-3rd ave., Viauville, Montreal.
11	" Joseph Pleau	37 33	Batiscan, Que.
12	" Nestor Arcand	37 33	374-5th ave., Viauville, Montreal.
13	" Alfred Frenette	37 33	Portneuf, Que.
14	" C. Lydéric Bouillé	32 00	Three-Rivers, Que.
15	" G. Joseph Dussault	37 33	Deschambault, Que.
16	" Célestin Brunet	37 33	1 Rouville St., Montreal.
17	" L. A. Bouillé	37 33	Deschambault, Que.
18	" Joseph Chandonnet	37 33	37 Eden St., Levis, Que.
19	" Onésime Naud	37 33	Deschambault, Que.
20	Heirs of Josaphat Sauvageau, c/o Gustave Picard, tutor	29 33	1594 St. James st., Montreal.
21	Dd. Pilot Jean Arcand	75 00	Deschambault, Que.
22	" Philippe Belanger	75 00	Lotbinière, Que.
23	" Louis Mayrand	75 00	Ste. Anne de la Pèrade, Que.
24	" Augustin Naud	75 00	St. Marc des Carrières, Que.
25	" Liboire Perreault	75 00	" "
26	" Gédéon Groleau	75 00	Grondines, Que.
27	" Alfred St. Amant	75 00	Deschambault, Que.
28	" Néré Bellisle	75 00	" "
29	" Narcisse Perreault	75 00	" "
30	" Ulric Groleau	75 00	Grondines, Que.
31	" Prudent Beaudet	75 00	261 John st., Que.
32	" Georges Dufresne	75 00	Deschambault, Que.

J. O. MICHAUD,

Assistant to Superintendent of Pilots.

MONTREAL, December 31, 1913.

5 GEORGE V., A. 1915

APPENDIX No. 6.—Montreal Pilotage Office.—Statement showing the number and sort of Vessels reported in this Office, total tonnage, total of crews, and number of Passengers inward for seasons 1912 and 1913.

	1912.	1913.
Sea-going vessels.....	711	775
Lake steamers.....	316	401
Schooners.....	38	47
Barges, tugs, steam yachts, and dredge.....	34	14
	1,099	1,237
Total tonnage of these vessels.....	2,800,070	3,147,974
The number of the masters and crews was.....	70,882	81,773
Number of passengers inward.....	128,727	166,766

There were also 274 lake steamers that came into the still waters of the harbour without reporting at this office, aggregating 296,165 tons, and navigated by 5,203 persons.

J. O. MICHAUD,

Assistant to Superintendent of Pilots.

MONTREAL, December 31, 1913.

SESSIONAL PAPER No. 21

APPENDIX No. 7.—Montreal Pilotage Office.—At the opening of Navigation 1913, the number of Branch Pilots was (53) fifty-three.

21—21

Pilot Cyrille Belisle.....	Died.....	May 26, 1905
" J. Sifroid Labranche.....	Dismissed.....	Oct. 14, 1905
" Gédéon Groleau.....	Pensioned.....	May 1, 1906

These three taken off reduce the number to (50) fifty.

Pilot	Pensioned from	May 1, 1906	Replaced by	Oswald Frenette.	Branched
Alfred Frenette.....		June 1, 1906		Chs. B. Hamelin.....	March 26, 1903
" Alfred St. Amant.....	"	" June 1, 1906	"	Tancrède Perron.....	" June 8, 1906
" Néré Belisle.....	"	Nov. 27, 1906	"	J. Delavoie Frenette.....	" Dec. 1, 1906
" Narcisse Perrault.....	"	Jan. 11, 1907	"	Fortunat Hamelin.....	" April 1, 1907
" Edouard Pleau.....	Dismissed	Jan. 11, 1907	"	J. Cyriac Gauthier.....	" April 20, 1907
" Nestor Arcand.....	Pensioned	May 1, 1907	"	J. B. Angers.....	" July 3, 1907
" C. Lydéric Bouillé.....	"	May 1, 1908	"	David J. Perreault.....	" July 7, 1908
" G. Joseph Dussault.....	"	Nov. 20, 1908	"	Napoléon Lachance.....	" Jan. 15, 1909
" Ulric Groleau.....	"	Apr. 24, 1909	"	Henri Bouillé.....	" June 4, 1909
" J. B. Nadeau.....	Resignation tendered	Oct. 21, 1908	"		" June 25, 1909
	"	accepted May 4, 1909			
" Prudent Beaudet.....	Pensioned from	Aug. 1, 1909	"	Theode Perron.....	" Aug. 1, 1909
" Georges Dufresne.....	"	May 1, 1910	"	Bona Dussault.....	" May 2, 1910
" Célestin Brunet.....	"	Aug. 2, 1910	"	J. Arthur Arcand.....	" Aug. 2, 1910
" Onésime Naud.....	"	Apr. 10, 1911	"	F. X. Rivard.....	" April 10, 1911
" Barthélemi Arcand.....	Suspended	May 28, 1913	"	Joseph A. Mayrand.....	" Sept. 16, 1913

J. O. MIOHAUD,
Assistant to Superintendent of Pilots.

MONTREAL, December 31, 1913.

APPENDIX No. 8.—Montreal Pilotage Office.—By-law 44 of the By-laws of the Montreal Pilotage District.

By-law 44.—From and after the coming into force of the present by-laws, the following fees shall be payable for pilotage between the Harbours of Montreal and Quebec and between the several places therein mentioned.

PILOTAGE RATES.

From Father Point to Quebec.	Per Foot.	
	Upwards.	Downwards.
	\$ c.	\$ c.
May 1st to November 10th.....	3 87	3 40
November 10th to November 19th.....	4 95	4 46
November 19th to March 1st.....	6 02	5 54
March 1st to May 1st	4 41	3 93

Montreal to Quebec.

From the harbour of Quebec to Portneuf and the opposite side of the river St. Lawrence, or below Portneuf and above the harbour of Quebec:

For the pilotage of any vessel in tow, or propelled by steam (except as hereinafter mentioned) for each foot of draught of water—

Upwards	\$ 0 50
Downwards	0 50

For the pilotage of any sea-going vessel propelled by steam, for each foot of draught of water:

Upwards	0 62½
Downwards	0 62½

For the pilotage of any vessel under sail, for each foot of draught of water:

Upwards	\$ 1 05
Downwards	0 70

From the harbour of Quebec to Three Rivers and the opposite side of the river St. Lawrence, or any place above Portneuf and below Three Rivers:

For the pilotage of any vessel in tow or propelled by steam (except as hereinafter mentioned), for each foot of draught of water:

Upwards	\$ 1 50
Downwards	1 50

For the pilotage of any sea-going vessel propelled by steam, for each foot of draught of water:

Upwards	\$ 1 75
Downwards	1 75
From Montreal to Three Rivers	1 75
From Three Rivers to Quebec	1 75

SESSIONAL PAPER No. 21

For the pilotage of any vessel under sail, for each foot of draught of water:

Upwards	\$ 2 60
Downwards	1 90

J. O. MICHAUD,

Assistant to Superintendent of Pilots.

MONTREAL, December 31, 1913.

AT THE GOVERNMENT HOUSE AT OTTAWA,

SATURDAY the 10th day of May, 1913.

PRESENT:—His Excellency the Administrator in Council.

His Excellency the Administrator in Council is pleased to order as follows:

That portion of by-laws No. 45 of the by-laws of the Pilotage District of Montreal as approved by Order in Council of the 29th September, 1911, which reads:

For the pilotage of any sea-going vessel propelled by steam, for each foot of draught of water:

Upwards	\$ 2 50
Downwards	2 50

is hereby amended to read as follows:

For the pilotage of any inland or coasting vessel propelled by steam, for each foot of draught of water:

Upwards	\$ 2 50
Downwards	2 50

For the pilotage of any sea-going vessel propelled by steam, for each foot of draught of water:

Upwards	\$ 3 00
Downwards	3 00

F. K. BENNETTS,

Asst. Clerk of the Privy Council.

The Honourable,
The Minister of Marine and Fisheries.

5 GEORGE V., A. 1915

REPORT OF THE PILOTAGE COMMISSIONERS OF THE PILOTAGE DISTRICT OF NANAIMO, B.C.

PILOTAGE COMMISSIONERS.

Names.	When appointed.
James S. Knaiston.. . . .	O. C. 7 April, 1900.
Henry B. Shaw.. . . .	O. C. 7 April, 1900.
Tully Boyce	O. C. 7 April, 1900.
Ira E. Lowe.	O. C. 21 March, 1912.
Wm. Bennett.. . . .	O. C. 29 May, 1912.
James Crossan, Secretary.	

The rates of pilotage in this district are:

One cent per registered ton, and \$1 per foot draught.

Tow-boats, fishing vessels and small trading vessels are charged at a flat rate of from \$10 to \$20 according to size.

Barges carrying 2,000 tons and over are charged \$20.

“ “ under 2,000 tons and over 1,000 tons \$15.

“ “ under 1,000 tons, are charged \$10.

NAMES OF PILOTS, Etc.

No.	Names.	When appointed.	Ages.	Amount Paid.
1	James Christensen.. . . .	March, 1891	72	\$1,942 19
2	James Edward Butler.. . . .	March, 1894	53	1,942 19
3	Wm. David Owen.. . . .	October, 1898. . . .	47	1,942 19
4	Albert Francis Yates	September, 1900 ..	61	1,942 19
5	Josiah Grose	August, 1903.....	49	1,942 19
6	John Galvin Foote.. . . .	April, 1907.	53	1,942 19
7	John Wm. Butler.....	October, 1907.	43	1,942 19

There are no apprentice pilots in this district.

No white flag ships licensed during the year.

STATEMENT OF VESSELS WHICH PAID PILOTAGE DURING THE YEAR.

No.	Nationality.	Tonnage.	Amount Paid.
286	British steam vessels.	263,983	\$10,083 06
137	Foreign steam vessels	108,287	4,621 19
.....	Scows and barges.....	43,386	1,667 18
			16,371 43

SESSIONAL PAPER No. 21

RECEIPTS AND EXPENDITURES.

RECEIPTS.		EXPENDITURES.	
British steamers	\$10,083 06	Victoria pilot station ex-	
Foreign "	4,621 19	penses—	
Scows and barges	1,667 18	Boatman's wages	450 00
		Boat hire and supplies....	265 15
		Tel. and telephone.....	262 19
		Miscellaneous expenses ..	151 80
		Mileage books.....	100 00
			1,229 14
		Nanaimo pilot expenses—	
		Telegrams and tele-	
		phone.....	68 32
		Buggy and boat hire....	290 25
		Miscellaneous expenses.	83 50
		Commission to collectors	166 45
			608 52
		Pilot Office expenses—	
		Secretary's salary and	
		caretaker	480 00
		Office rent	264 00
		Telephone, light and	
		fuel.....	67 05
		Miscellaneous postage	
		and stationery.....	126 61
			937 66
		Paid to pilots, etc.....	13,596 11
	16,371 43		\$16,371 43

Name : *Austin Harry*. pilot boat ; wages, \$450.

Navigation is always open.

JAMES CROSSAN,
Secretary.

NANAIMO, B.C., February 2, 1914.

REPORT OF THE PILOTAGE AUTHORITY OF THE PILOTAGE DISTRICT OF NEW WESTMINSTER, B.C.

COMMISSIONERS.

Name.	When Appointed.
J. C. Armstrong.....	February 6, 1904.
James B. Kennedy	March 23, 1904.
Joseph Mayers	October 18, 1909.

The rates of pilotage dues for the time being in force in this pilotage district are as follows: \$1 per foot draught, and 1 cent per ton on registered tonnage (net).

No apprentice pilots for this district.

No white flag ships licensed during the year.

5 GEORGE V., A. 1915

VESSELS WHICH PAID PILOTAGE DURING YEAR.

Number.	Nationality.	Tonnage.	Amount Paid.
2	British steam vessels.	6,520	\$ 248 40
1	" sailing vessels.	2,483	95 66
22	Foreign steam vessels	11,627	548 88
3	" sailing vessels.	2,047	143 28
28		22,677	1,036 22

The only pilot of this authority is paid by the corporation of the city of New Westminster, at the rate of \$150 per month, and all fees collected for pilotage are turned over by the Pilotage Authority to the city, except 10 per cent of same, to defray the expenses of pilot and office.

Navigation is always open.

D. H. MACGORRAN,

Secretary.

NEW WESTMINSTER, B.C., December 31, 1913.

REPORT OF THE PILOTAGE AUTHORITY OF THE PILOTAGE DISTRICT OF PARRSBORO, N.S.

PILOTAGE COMMISSIONERS.

Name.	When Appointed.
James E. Pettie	O.C. January 24, 1881.
Stephen R. DeWolfe	do do
Edward Gillespie	O.C. February 26, 1889.

The rates for the time being in force in this district are as follows:—

Inward pilotage rates, \$1.25 to \$2.50 per draught foot for sailing vessels, and 50 cents per foot draught additional for steamers.

Outward pilotage rates, \$1.50 to \$2.50 per draught foot for sailing vessels, and 50 cents per foot draught additional for steamers.

Pilotage is non-compulsory.

Name of Pilot.	When Appointed.	Age.	Earnings.
			\$ cts.
Joseph Anderson	July 13, 1906.	40	393 50

No apprentice pilots in this authority.

No white flag ships licensed during the year.

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VESSELS which paid pilotage fees during the year.

No.	Nationality.	Tonnage.	Amount paid.
			\$ cts.
6	British steam vessels	11,442	393 50

*Receipts.**Expenditures.*

	\$	cts.		\$	cts.
Pilotage fees.....	393	50	Paid Pilot Anderson	365	97
			" secretary, for salary and contingencies	27	53
	383	50		393	50

This pilotage authority does not own any pilot boats.

Shipping started April 14, 1913, and closed December 30, 1913.

E. GILLESPIE,

Secretary.

PARRSBORO, N.S., December 31, 1913.

REPORT OF THE PILOTAGE COMMISSIONERS OF THE PILOTAGE DISTRICT OF PICTOU, N.S.

PILOTAGE COMMISSIONERS.

Name.	When Appointed.
Hector McKenzie.....	O.C. October 19, 1912
G. Adam Carson.....	" " 19, 1912
J. R. Davis.....	" " 19, 1912
William McKenzie.....	" " 19, 1912
G. Adam Pringle.....	" " 19, 1912

The rates of pilots' dues at this port are as follows:—

	Inwards.	Outwards.
Vessels of 80 to 140 tons.....	\$ 6 00	\$ 4 00
" 140 to 200 "	10 00	6 00
" 200 to 300 "	12 00	8 00
" 300 to 400 "	14 00	9 00
" 400 to 500 "	15 00	10 00
" 500 to 600 "	16 00	11 00
" 600 to 700 "	17 00	12 00
" 700 to 800 "	18 00	13 00
" 800 to 900 "	19 00	14 00
" 900 to 1,000 "	20 00	15 00

Vessels of 1,000 tons and upwards, 2½ cents inwards, and 2 cents outwards on net tonnage.

All vessels under 80 tons, \$4 inwards and \$2 outwards.

Docking and moving vessels from anchorage in Harbour, \$5.

5 GEORGE V., A. 1915

NAMES OF PILOTS AND EARNINGS.

No.	Name.	Age.	Amount Paid.
			\$ cts.
2	Angus Smith.....	57	746 92
3	McGregor Fraser.....	46	
4	Wm. Mcphesson.....	39	644 50
			1,391 42

WHITE FLAG SHIP LICENSED DURING THE YEAR.

Name.	Class.	Amount Paid.
		\$ cts.
<i>Caspadeia</i> , J. Hearn, master.....	Br. steamship...	40 00

STATEMENT OF VESSELS WHICH PAID PILOTAGE FEES FOR THE YEAR.

No.	Nationalty.	Tonnage.	Amount Paid.
			\$ cts.
14	British steam vessels.....	21,808	543 42
10	" sailing vessels.....	2,036	54 00
19	Foreign steam vessels.....	30,475	816 21
43			1,413 63

Navigation opened April 2, and closed November 28, 1913.

G. ADAM PRINGLE,

Secretary.

PICTOU, N.S., January 20, 1914.

REPORT OF THE PILOTAGE COMMISSIONERS OF THE PILOTAGE DISTRICT OF PORT MEDWAY, N.S.

PILOTAGE COMMISSIONERS.

Names.	When Appointed.
Edwin Morine.....	O. C. August 8, 1898.
J. F. Wolfe.....	O. C. April 2, 1910.
Chas. Kennedy.....	O. C. March 28, 1912.

SESSIONAL PAPER No. 21

The rates of pilotage for the time being in force in this district are, as follows:—

	Inwards	Outward
Vessels from 120 tons to 300 tons.....	\$ 6 00	\$ 4 00
" " 300 " 400 "	7 00	5 00
" " 400 " 600 "	9 00	6 00
" over 600 "	12 00	8 00

NAMES OF PILOTS AND EARNINGS.

Names.	When Appointed.	Amount earned.
Gilbert Parke.....	February 25, 1907.....	\$20 00
James Parke.....	March 9, 1909.....	20 00

There are no apprentices in this district.

Two British steam vessels of 3,802 tons paid pilotage amounting to \$40 during the year.

Navigation is open the whole year round.

E. MORINE,

Secretary.

PORT MEDWAY, N.S., December 31, 1913.

REPORT OF THE PILOTAGE COMMISSIONERS OF THE DISTRICT OF PRINCE COUNTY, P.E.I.

PILOTAGE COMMISSIONERS.

Names.	When Appointed.
James F. White.....	O. C. September 26, 1905.
John T. Profit.....	O. C. August 25, 1905.

The rates of pilotage for the time being in force in the district are, as follows:—

Vessels of 100 tons and under 250 tons, per foot draught, inwards \$1; outwards, 80c.

Vessels of 250 tons and upwards, per foot draft, inwards \$1.50, outwards \$1.

And on all vessels under 120 tons, accepting the services of a pilot, eight cents per ton inwards and six cents per ton outwards.

NAMES OF PILOTS, ETC.

Names.	When Appointed.	Age.
William Smith.....	May 1, 1913.....	39
Charles Gallant.....	May 28, 1913.....	45

No white flag ships licensed during the year.

No account kept of vessels paying pilotage fees.

Navigation opened April 26, 1913, and closed December 13, 1913.

JAMES F. WHITE,

Chairman.

ALBERTON, P.E.I., January 6, 1914.

5 GEORGE V., A. 1915

REPORT OF THE PILOTAGE AUTHORITY FOR THE DISTRICT OF PUGWASH, N.S.

Pilotage Commissioners.	When appointed.	Changes.
Elias King.....	O.C. April 29, 1895.....	
Alfred G. King	O.C. Sept. 20, 1904.....	
Gordon McDonald.....	O.C. April 24, 1911.....	
Charles Macfarlane.....	O.C. April 22, 1913.....	Replaced William Colbourne.
Peter McLeod.....	O.C. April 22, 1913.....	" E. A. Murray.

The rates of pilotage dues for the time being in force in this district including the amounts and description of all charges upon shipping made in respect of pilotage:—

				Inwards.	Outwards.
Vessels	80 and under	140 tons		\$	\$
"	140	" 230	"	6 00	5 00
"	230	" 300	"	8 00	7 00
"	300	" 400	"	10 00	9 00
"	400	" 500	"	14 00	12 00
"	500	" 600	"	16 00	14 00
"	600	" 700	"	17 00	15 00
"	700	" 800	"	18 00	16 00
"	800	" 900	"	19 00	17 00
"	900	" 1,000	"	20 90	18 00
				21 00	19 00

Vessels over 1,000 tons shall pay 2½ cents per ton inward; 2 cents outward on additional tonnage.

Vessels under 80 tons accepting pilots shall pay 5 cents per ton inward and 4 cents per ton outward.

Vessels over 1,000 tons register after entering the harbour and being safely moored by a pilot, employing a pilot to be moved again to a loading berth dock or wharf from her first moorings, shall pay to the pilot so employed the sum of \$5.

Vessels under 1,000 tons and over 300 shall pay \$3.

Names of Pilots.		When appointed.	Age.	Earnings.
No. 1	Neil McKevor.....	1890	51	\$219 42
" 2	Clarence Reid.....	1891	60	
" 3	A. E. Seaman.....	1899	35	219 42
" 4	Geo. Tuttle King.....	1903	34	
" 5	Frank Seaman.....	1913	34	219 42
	Frank Seaman for piloting schooners.....			10 00
Total earnings.....				\$668 26

There are no apprentice pilots in this district.

No white flag ships were licensed during the year.

SESSIONAL PAPER No. 21

STATEMENT of vessels which paid pilotage fees for the year.

No.	Nationality.	Tonnage.	Amount paid.
3	British steam vessels	5,921	\$266 71
2	German steam vessels	3,552	149 56
1	Norwegian steam vessel	1,785	75 32
1	Swedish steam vessel	1,599	71 95
1	Danish steam vessel	2,105	94 72
8			\$658 26

Receipts—

Pilotage fees for steamers	\$658 26
" " schooners	10 00
	<u>\$668 26</u>

Expenditures—

Paid pilots	\$668 26
	<u>\$668 26</u>

Number or Name.	Statement of the Cost of Maintenance.
1 Nimrod	Pilots of this port have always maintained cost of boats themselves and paid all expenses of their boats.
2 Venture	
3 Ida	
4 Leader	
5 Acadia	

Navigation opened the average date, April 20, and closed November 25.

ELIAS KING,
Secretary.

Dated at Pugwash, January 1, 1914.

QUEBEC PILOTAGE DISTRICT.

QUEBEC, December 30, 1913.

Captain H. ST. G. LINDSAY,
General Superintendent of Pilotage,
Department of Marine and Fisheries,
Ottawa, Ontario.

SIR,—I respectfully enclose a recapitulation of the pilotage of the branch pilots for and below the harbour of Quebec, done during the season of navigation of the year 1913.

Also a recapitulation of the trips done by the apprentice pilots for and below the harbour of Quebec during the season of navigation of the same year.

Yours truly,

JOS. H. TALBOT,
Superintendent of Quebec Pilots.

5 GEORGE V., A. 1915

RECAPITULATION of the Pilotages of the branch Pilots for and below the Harbour of Quebec.

No.	Name.	Employment.	In-wards.	Out-wards.	Move-ages.
1	Ray Baquet	C. P. R. Lines	20	20	2
2	C. A. Raymond	Tour de rôle	11	10	1
3	Victor Vezina	"	8	9	1
4	Jos. G. Dupil	"	11	6	2
5	Pierre Pepin	"	13	17	0
6	Isiote Noel	"	11	17	0
7	Alf. Larochele	"	12	14	0
8	Theo. Corriveau	Dom. Coal Co.	14	14	0
9	Elz. Godbout	"	18	17	0
10	Narcisse Lavoie	Tour de rôle	14	9	2
11	Jos. E. Couillard	"	10	18	1
12	Louis A Royer	"	11	12	1
13	Onesime Noel	Thomson Line	21	21	1
14	Frs. X. Demeule	Dominion Line	20	25	0
15	Louis H. Lapiere	Tour de rôle	10	11	2
16	J. E. Lachance	Que. S. S. Co. & Tour	14	14	0
17	J. T. St. Laurent	White Star Dominion	25	19	0
18	J. Victor Gourdeau	Tour de rôle	12	15	3
19	Ls. T. Delisle	"	8	7	1
20	J. B. Comillard	Dom. Coal Co.	13	13	0
21	Adj. Baillargeon	White Star Dom.	23	23	1
22	Sam. Rioux	Suspended for three years.			
23	Chas. O. Clavet	Dom. Coal Co.	15	15	0
24	Paul Lachance	Tour de rôle	10	11	2
25	A. Jouvin	"	12	11	0
26	Paul Lachance	Allan Line	25	21	0
27	Jos. Pouliot	Tour de rôle	12	10	0
28	Adj. Lachance	C. P. R. Lines	9	10	0
29	Frs. Gaudreau	"	21	21	1
30	Arthur Kœnig	Tour de rôle	11	11	1
31	Eugene Ancil	"	12	11	0
32	David Dumas	"	10	12	1
33	Joseph Lachance	"	10	11	0
34	Alf. Pouliot	"	12	16	0
35	Elz. Normand	"	12	7	0
36	J. B. Bernier	Cunard Donaldson	20	22	0
37	Joseph Paquet	Tour de rôle	13	11	1
38	J. A. Lachance	"	10	13	0
39	Arth. Baillargeon	Dom. Coal Co.	21	21	0
40	Joseph Vezina	Allan Lines	20	20	5
41	Herm. Guenard	Tour de rôle	13	11	0
42	John A. Irvine	Capt. Red Island Lightship.			
43	Fred. Bouffard	Tour de rôle	11	11	0
44	Jules Asselin	Allan Lines	20	24	0
45	Lucien Lachance	Tour de rôle	10	13	0
46	Camille Bernier	White Star Dominion	26	27	1
47	Moise Blouin	Tour de rôle	10	13	1
48	Alf. Gaudreau	"	11	11	0
49	Alf. Raymond	Head Lines	13	27	0
50	Phileas Lachance	Dom. Coal Co.	18	17	0
51	Moise A. Lachance	Tour de rôle	12	10	0
52	Louis F. Thivierge	Dom. Coal Co.	14	14	0
53	Alp. Paquet	Tour de rôle	9	12	0
54	Adelard Bernier	C. P. R. Atlantic Lines	25	22	1
55	J. B. Pouliot	Capt. Tender "Lady Evelyn"			
56	Leonidas Lachance	Tour de rôle	11	11	0
57	Eudore Langlois	"	12	9	0
58	Joseph Delisle	"	13	12	2
59	Jules Lachance	Cunard Donaldson	22	20	2
60	Auguste Santerre	Allan Line	21	24	2
61	Arthur Larochele	Dom. Coal Co.	20	20	0
62	Raoul Lachance	Elder Dempster	15	14	1
63	William Langlois	Royal Line	13	14	1
64	Ernest Bernier	Dom. Coal Co.	20	20	0
65	Arthur Baquet	Elder Dempster	13	20	0
66	Jules Lamarre	Dom. Coal Co.	17	16	0
67	George Larochele	Manchester Dom. Line	25	23	4
68	Adelard Delisle	"	22	23	2
69	Alex. Larochele	Thomson Line	24	19	2
70	Arthur Paquet	Tour de rôle	12	10	0

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The following remarks are to be attached to the Recapitulation of Pilotages done by the branch pilots for and below the harbour of Quebec.

1	Ray. Baquet.....	Remitted his Branch to December 4th, 1913, and his resignation was accepted by the Department on December 12th, 1913.
2	C. A. Raymond.	Reported sick from November 18th, 1913.
3	Victor Vezina	Having reached the age limit, was pensioned.
4	Jos. G. Dupil.....	Line Pilot until June, then Tour de role Pilot. Reported sick Oct. 7th, asked to be pensioned, and resignation accepted, October, 1913.
19	Louis Treffe Delisle. . .	Suspended on October 1st, 1913, until end of navigation season, <i>re</i> stranding S.S. "Whakatane".
22	Sam. Rioux.....	Suspended for three years from December, 1912, <i>re</i> stranding of S.S. "Royal George".
23	Chas. O. Clavet.....	Was on board S.S. "Bridgeport" which has not been heard of since leaving Sydney, N.S., on November 1st, 1913.
28	Adjutor Lachance.	Suspended August 14th, 1913, for balance of season, <i>re</i> stranding of S.S. "Lake Manitoba". Re-instated October 17th, 1913.
35	Elzear Normand	Reported sick November 18th, 1913.

RECAPITULATION of work done by apprentices for and below the harbour of Quebec, 1913.

No.	Name.	Inwards.	Outwards.	Total.
1	Gabriel Lachance.....	26	25	51
2	Ernest Pouliot.....	23	23	46
3	Bastine Anetil.	15	15	30
4	J. Adelard Bernier.....	16	16	32
5	Felix Lavoie.	15	14	29
6	Chas. H. Koenig.....	12	8	20
7	Louis Gonz. Lavoie.....	17	16	33
8	Albert Lachance.....	18	17	35
9	Cyrille Pouliot.....	38	20	58
10	Paul E. Lachance.....	16	15	31
11	Herm Bouffard.....	14	13	27
12	F. J. G. Gaudreau.....	13	12	25
13	Herm Lachance.....	15	16	31
14	Camille Couillard.....	14	15	29
15	Lactance Lachance.....	16	13	29
16	J. W. Pouliot.....	16	14	30
17	L. P. Langlois.....	15	15	30
18	Rodrigue Lachance.....	15	14	29
19	Edmond Baquet.....	16	15	31
20	Leo. Labrecque	15	16	31
21	Eudore Langlois.....	18	18	36
22	Romeo Gaudreau.....	15	15	30

5 GEORGE V., A. 1915

REPORT of the Corporation of Pilots for and below the Harbour of Quebec, for the year ending December 31, 1913.

QUEBEC, December 31, 1913.

A. JOHNSTON, Esq.,
Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to transmit to you a detailed statement, in duplicate, of the money received and paid from the pension fund of the Decayed Pilots of Quebec for the year just past, also a detailed statement, in duplicate, of the money received and paid by the Corporation of Pilots, all audited and certified.

The amount received by the Corporation of Pilots for pilotage was.	\$152,612 84
Less general expenses, comprising 7 per cent to Pension Fund, remittance on loan to Decayed Pilots' Fund, and pensions to pilots, etc.	26,762 84
Leaving a net balance of.	\$125,850 00
This gave a dividend to each pilot of \$1,900.	
977 British vessels paid	\$146,138 34
40 foreign vessels paid.	6,474 50
1017 Total.	\$152,612 84

I have the honour to be, sir,
Your obedient servant,

PH. LAMONTAGNE,
Secretary-Treasurer.

REPORT of the Corporation of Pilots for and below the Harbour of Quebec, for the year ending December 31, 1913.

RECEIPTS.		EXPENDITURES.	
Balance, 1913	\$ 1,904 65	Interest paid on loan.	\$ 100 00
Reserve Fund.	1,000 00	Amount paid on principal.	2,000 00
Customs of Montreal.	7,048 23	Rent.	2,503 77
" Three Rivers.	251 18	Taxes, city.	184 00
" Chicoutimi.	4,623 85	General expenses	1,752 48
" Sorel.	170 72	Expenses of pilots	520 75
" Rimouski.	243 35	Indemnity to Directors.	583 33
" Riviere du Loup.	36 12	Legal Advisers.	893 10
" Escoumains.	44 28	Insurance.	36 60
Interest, La Banque Nationale.	143 31	Pilotage paid twice and remitted.	953 76
Fines.	50 00	Pilots pensioned	4,000 00
Lost time.	1,380 39	Salary of employees.	1,750 00
Board, Father Point.	2,111 25	" caretaker.	500 00
Rent	1,568 00	" Treffe Simard	387 50
Pilotage collected at Quebec.	140,195 11	Board Father Point.	2,296 27
		Decayed Pilots Fund.	10,682 93
		Dividends.	125,850 00
		Balance	5,775 95
	\$ 160,770 44		\$ 160,770 44

SESSIONAL PAPER No. 21

STATEMENT of moneys received and expended by the Corporation of Pilots for the
Decayed Pilot Fund of Quebec during the year.

RECEIPTS.		EXPENDITURES.	
Balance from 1912.....	\$51,159 21	By pensions	\$13,934 44
Contribution of Pilots.....	10,682 93	Assistance.....	83 30
Interest on investments	3,710 75	Salaries.....	550 00
Interest from Savings Bank.....	1,245 58	Deposits in Savings Bank	8,230 73
Remitted by Corporation of Pilots	2,000 00	Debentures Corporation of Village of Plessisville	36,000 00
		Mgr. J. N. Begin, Arch. of Quebec..	10,000 00
	68,798 44		\$68,798 47

PENSIONERS AT EXPENSE OF FUND.

		Per annum.	
20 pilots at	\$ 300 00		\$ 5,501 34
1 pilot at	270 00		270 00
10 pilots at	216 00		1,811 70
24 widows at	116 00		2,735 70
11 widows at	112 00		1,206 70
5 widows at	110 00		550 00
6 widows at	106 00		636 00
4 widows at	100 00		375 00
4 widows at	96 00		384 00
1 widow at	76 00		76 00
1 widow at	70 00		70 00
1 widow at	68 00		68 00
1 widow at	64 00		64 00
10 children at	30 00		286 00
99 Pensioners			13,934 44

STATEMENT OF INVESTMENT EXPENDITURES.

RECEIPTS.		EXPENDITURES.	
Balance from 1912.....	\$51,159 21	By Pensions, 1913	
Debentures of City of Quebec, Class "B"		Assistance	\$ 83 30
\$9,000 at 7 p.c.....	630 00	Quarter to 31st January, 1913.....	3,460 25
Corporation of Pilots, 1 year interest on		" 30th April, 1913.....	3,414 15
\$2,000 at 5 p.c.....	100 00	" 31st July, 1913.....	3,530 00
Corporation of Pilots, remittance on loan	2,000 00	" 31st October, 1913.....	3,530 04
Corporation of St. Valier, 1 year interest		Debentures Corporation of Village of Plessisville at 5 p.c	36,000 00
on \$5,000 at 4 p.c.....	200 00	Mgr. L. N. Begin, Arch. de Quebec, at 5 p.c.....	10,000 00
Corporation of St. Romuald, 1 year		Salary of Sec.-Treas and Assistant...	550 00
interest at 4 p.c. on \$14,000	560 00	Deposits in Savings Bank.....	8,230 73
Syndicate of St. Prime, 18 months in-	1,248 75		
terest on \$18,500 at 4½ p.c.....			
Syndicate Chemins à Barrières \$1,200 at			
6 p.c	72 00		
Interest, Banque Nationale, Quebec....	1,245 58		
Contributions of Pilots	10,682 93		
Debentures Corporation of Village of Plessisville, 6 mos. interest \$36,000 at			
5 p.c.....	900 00		
	\$ 68,798 47		\$ 68,798 47

STATEMENT OF FUNDS.

Money loaned..	\$93,700 00
Money in Savings Bank..	8,230 73
	\$101,930 73
Arrears..	53 00
	\$101,877 73

PH. LAMONTAGUE,

Secretary-Treasurer.

QUEBEC. December 31, 1913.

5 GEORGE V., A. 1915

TABLE 1.—Rates of Pilotage for and below the Harbour of Quebec for each foot of draught water.

PILOTAGE RATES.

From	To	From May 1 to Nov. 10.	From Nov. 10 to Nov. 19.	From Nov. 19 to Mar. 1.	From Mar. 1 to May 1.
Father Point or any place below the anchorage of Brandy Pots, off Hare island.....	Anchorage or mooring ground in the basin or harbour of Quebec.	\$3 87	\$4 95	\$6 02	\$4 41
The Anchorage ground at the Brandy Pots off Hare island or any place above the said anchorage ground and below St. Roch's Point...	" .. $\frac{2}{3}$ of this sum.	$\frac{2}{3}$ of this sum.	$\frac{2}{3}$ of this sum.	$\frac{2}{3}$ of this sum.	$\frac{2}{3}$ of this sum.
St. Roch's Point or any place above this point and below the Pointe-aux-Pins or Crane island or any place below St. Patrick's Hole..	" .. $\frac{1}{3}$ of this sum.	$\frac{1}{3}$ of this sum.	$\frac{1}{3}$ of this sum.	$\frac{1}{3}$ of this sum.	$\frac{1}{3}$ of this sum.
The anchorage or mooring ground in the Basin or harbour of Quebec.....	Father Point or the place where the pilot shall be discharged in the river below Quebec.....	\$3 40	\$4 46	\$5 54	\$3 93

From	To	—
Any wharf in the harbour of Quebec between Pointe-à-Carcy below, and the West End of the Allan's wharf above, both inclusive	Any other wharf within said limits...	\$2 50
Any place in the harbour of Quebec, not being a wharf within the above mentioned limits.....	Any other place in the said harbour not being a wharf within the said limits.	5 00

REPORT OF FATHER POINT PILOT TENDER C.G.S. *Eureka*, FOR 1913.

QUEBEC, January 5, 1914.

Mr. A. JOHNSTON,

Deputy Minister of Marine and Fisheries,
Ottawa, Ont.

SIR,—I have the honour to inclose herewith my reports for the year 1913, as to my service as master of pilot and mail tender at Father Point.

I pointed out last year, many improvements to be made on this ship, as the boat was to be changed from that service; but last spring it left for the same service without any changes and in the same old condition.

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Inclosed you will find my report and general description of accommodation needed for this pilot and mail service at Father point, on the *Eureka*; also repairs which would be needed, as you will see in my two reports, even if the *Eureka* is changed from her present service at Father point.

Yours truly,

CAPT. J. B. BELANGER,

Master, C.G.S. Eureka.

Captain Belanger furnished a general description of the *Eureka* in which he expresses his opinion about the suitability of the vessel for the pilot service at Father point.

The report is given in detail respecting the requirements of the vessel to make her, in his opinion more suitable for the service.

He recommends that some changes be made in order to make the vessel more comfortable in heavy weather.

Some of these recommendations include giving more shelter on the bridge, and mention some instances as heavy gales when the improvement is necessary.

He refers to the power of the vessel which is not up to the strength that would make her work more freely in heavy weather.

Captain Belanger refers to repairs that he considers will be necessary even if the vessel were put into some other service.

The details he refers to include repairing cross bunker and overhauling a water tank and painting the inside and outside of the houses on deck.

The water tank in the captain's room needs repairs.

A new propeller blade is also required, a new cook stove and some changes in the steering gear.

5 GEORGE V., A. 1915

REPORT OF CAPT. J. B. BELANGER, MASTER C.G.S. "EUREKA."

QUBBEC, January 5, 1914.

NUMBER of vessels boarded during the season of 1913.

	Steamers inward.	Boarded outward.	Total.	Miles.
April	18	4	22	239
May	103	78	181	736
June	131	109	240	803
July	111	111	222	914
August	120	112	232	817
September	99	97	196	715
October	97	95	192	706
November	70	70	145	989
December	2	3	5	244
Total	751	679	1,435	6,163

YACHTS and Sailing Vessels.

Yachts	20	18	38	
Barques	6	6	12	
Total	26	24	50	

	Boarded.	Passing off.
Steamers	1,435	685
Yachts	38	
Barques	12	
Total	1,485	685

	Inward.	Outward.	Total.
Yachts	20	18	38
Barques	6	6	12
Total	26	24	50

Amount of coal used on C.G.S. "Eureka."

During summer of 1913.—

Tons.

Took at Quebec	60
Took at Father Point	426
Took at Rimouski wharf	154

Total

640

Coal on board	20
Coal on Father Point Wharf	50
Coal in Rimouski's shed on wharf	15

Total remaining

85

(Extract from engineer's log.)

CAPTAIN J. B. BELANGER,

C.G.S.. "Eureka."

SESSIONAL PAPER No. 21

REPORT OF THE PILOTAGE COMMISSIONERS OF THE PILOTAGE DISTRICT OF RESTIGOUCHE, N.B.

PILOTAGE COMMISSIONERS.

Names.	When Appointed.
W. F. Napier.....	O. C. 6 December, 1905.
A. H. Hilyard.....	O. C. 5 May, 1905.
David Champoux.....	O. C. 8 February, 1907.
James E. Steward.....	O. C. 2 March, 1912.
John T. Mowat.....	O. C. 9 February, 1912.

The rates of pilotage in force in this district are as follows:—

The rates on pilotage including the properly securing and mooring all ships or vessels, pilotage for the several ports within the pilotage district of Restigouche shall be as follows:—

For every foot of water any ship or vessel shall draw at the time inward or outward bound in the port of Dalhousie, Benjamin, Beaver point, Nash creek, Jacquet river, or any loading station east of Dalhousie on the bay of Chaleur, \$1.50; Port of Campbelltown, \$2; Oak Bay or any loading station east of same, west of Dalhousie, \$2, when ships proceed direct from sea.

Ships bound for Dalhousie, Benjamin, Beaver point, Nash creek, Jacquet river, or any loading station east of Dalhousie, calling at any of the said harbours for orders, or to discharge ballast, cargo, or otherwise on ship's account, \$1.50; and thence to the said port or loading station on the bay of Chaleur, 75 cents per foot draught of such ships at the time.

Ships bound for Campbellton, Oak Bay or any loading station east of Oak Bay and west of Dalhousie waiting at Dalhousie or any of the outer bay ports to discharge ballast cargo or otherwise on ship's account, \$1.50, and thence to the said port of Campbellton, 75 cents; Oak Bay or any loading station east of Oak Bay, and west of Dalhousie, 75 cents per foot draught of such ship at the time and vice versa.

For removal of any ship, including the properly securing and mooring such ship, the following rates, viz.: The sum of one dollar and fifty cents for ships not exceeding one hundred and twenty tons; the sum of two dollars for ships over one hundred and twenty tons and not exceeding three hundred tons; the sum of four dollars for ships over three hundred tons and not exceeding six hundred tons; and the sum of five dollars for all ships over six hundred tons; and when the distance of removal extends four miles, fifty per cent additional to above rates. In addition to above rates all vessels propelled wholly or in part by steam shall pay one cent inwards and one cent outwards per net registered tonnage.

NAMES of Pilots and Earnings.

Names.	Age.	Earnings.
Robert McNeil (retired).		\$ cts.
Joseph Elsliger.....	57	1,275 60
Edward Elsliger.....	48	1,275 60
Wm. Donohue.....	46	1,275 60
Neils Neilson.....	39	1,275 60
Dan. McNeil	36	1,275 60
		6,378 00

5 GEORGE V., A. 1915

STATEMENT of Vessels which paid Pilotage Fees for the year.

No.	Nationality	Tonnage.	Amount Paid.
			\$ cts.
27	Foreign steam vessels.....	46,070	2,395 40
12	British sailing vessels.....	3,421	408 00
35	British steam vessels.....	47,049	2,772 46
40	Foreign sailing vessels.....	38,231	1,364 23
114		134,771	6,940 09

Receipts.	\$ cts.	Expenditures.	\$ cts.
Pilotage as per other side.....	6,940 09	Retained for expenses commission, including Secretary's salary.....	208 18
		Expenses of boats and upkeep.....	353 91
		Divided amongst five pilots.....	6,378 00
	6,940 09		6,940 09

Navigation opened May 1, and closed November 26, 1913.

W. F. NAPIER,
For Secretary.

RESTIGOUCHE RIVER, N.B., December 31, 1913.

REPORT OF THE PILOTAGE COMMISSIONERS OF THE PILOTAGE DISTRICT OF RICHIBUCTO, N.B.
PILOTAGE COMMISSIONERS.

Names.	When appointed.
Wm. J. Brait.....	O. C. May 8, 1888.
Richard R. O'Leary.....	" June 21, 1909.
Frank Curran.....	" " 21, 1909.
W. E. Forbes.....	" " 21, 1909.
Fred. Ferguson.....	" " 21, 1909.

The rates of pilotage for the time being in force in this district, are as follows:
\$1.50 per foot inward; \$1.50 per foot outward.

NAMES OF PILOTS.

Names.	Age.	Earnings.
George Long.....	70	\$ 250 00
James Long.....	72	
William Long.....	65	100 00
John Curwin.....	65	
		\$ 350 00

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VESSEL WHICH PAID PILOTAGE DURING THE YEAR.

1 British steam vessel of 1,987 tons.

4 Foreign steam vessels of 1,420 tons.

Receipts.—4 Pilots' Licenses, \$4; earnings, \$350; total, \$354.

Expenditures.—License forms, 25 cents; Pilots' fees, \$350; total, \$50.25.

Navigation opened April 15, and closed November 30, 1913.

FRED. FERGUSON,
Secretary.

RICHBUCKTO, N.B., January 15, 1914.

REPORT OF THE PILOTAGE COMMISSIONERS OF THE PILOTAGE DISTRICT OF SHEPODY BASIN, N.B.

PILOTAGE COMMISSIONERS.

Names.	When appointed.
Watson H. Steeves.....	O. C. October 10, 1912.
B. T. Carter.....	" " 10, 1912.
Isaac C. Prescott.....	" " 10, 1912.
Robt. C. Bacon.....	" June 24, 1911.
Geo. R. Paysant.....	" " 24, 1911.

The rates of pilotage for the time being in force in this district are, as follows:—

2 cents per registered ton inwards.

1 cent per registered ton outwards.

PILOTS.

Names.	When appointed.	Age.	Amount earned.
Herbert A. Peck.....	April 30, 1912....	37	\$ 539 78
Josiah Christopher.....	" 30, 1912	40	585 35
John E. Bishop.....	" 30, 1912....	60	141 65
Charles Bishop.....	" 30, 1912....	58	136 00.
			\$ 1,402 78

STATEMENT of Vessels which paid Pilotage during year.

No.	Nationality.	Tonnage.	Amount Paid.
7	British sailing vessels.....	6,834	\$ 251 60
45	Foreign steam vessels.....	31,849	1,015 16
9	Foreign sailing vessels.....	4,073	136 02

There are 4 pilot boats, the cost of maintenance of which was \$30.

Navigation opened April 1, 1913, and closed January 1, 1914.

B. T. CARTER,
Secretary.

HOPEWELL CAPE, N.B., February 3, 1914.

5 GEORGE V., A. 1915

REPORT OF THE PILOTAGE COMMISSIONERS OF THE PILOTAGE DISTRICT OF SHEDIAC, N.B.

PILOTAGE COMMISSIONERS.

Names.	When Appointed.
Michael Connors.....	O. C. Jan. 12, 1906
J. Charles Roberts.....	O. C. Jan. 12, 1906
George McDevitt.....	O. C. Jan. 12, 1906
D. J. Doiron.....	O. C. Jan. 12, 1906
E. R. McDonald.....	O. C. Jan. 12, 1906

The rates of pilotage in force in this district are as follows:—

Inwards, \$1.50 per foot draught.

Outwards, \$1.50 per foot draught.

For removal of any ship or vessel, and seeing such ship or vessel properly secured or moored, the sum of \$4; hauling a vessel into the wharf or dock from the stream not to be considered a removal.

All ships propelled by steam or driven by power other than sails shall pay 4 cents per ton on the registered ton in addition to above charges.

NAMES OF PILOTS AND AGES.

Aliff Hendricksen, 52.

Paul P. LeBlanc, 69.

Thomas McGrath, 67.

STATEMENT of Vessels which paid pilotage fees for the year.

No.	Nationality.	Tonnage.	Amount Paid.
1	British steam vessel.....	1,786	\$ 113 36
3	Foreign steam vessels.....	2,545	217 34
2	Foreign sailing vessels.....	462	57 75
			\$ 388 45

Receipts.

Pilotage dues.....	\$ 388 45
	<u>\$ 388 45</u>

Expenditures.

Paid pilots.....	\$ 350 69
Commission on dues.....	7 76
	<u>\$ 388 45</u>

Navigation opened April 8, and closed December 27, 1913.

E. R. McDONALD,

Secretary.

SHEDIAC, N.B., March 13, 1914.

SESSIONAL PAPER No. 21

REPORT OF THE PILOTAGE COMMISSIONERS FOR THE DISTRICT OF ST. ANNS, VICTORIA COUNTY,
N.S.

PILOTAGE COMMISSIONERS.

Name.	When Appointed.
Angus J. McRitchie	O.C. April 23, 1904.
Murdoch Smith	" " 23, 1904.
Donald McAulay	" " 23, 1904.

The rates of pilotage dues for the time being in force in this district, including the amounts and description of all charges upon shipping made in the respect of pilotage are:—

Vessels of 120 to 200 tons	\$ 7 00	Vessels of 500 to 600 tons	\$16 00
" 200 to 250 "	8 00	" 600 to 700 "	17 00
" 250 to 300 "	9 00	" 700 to 800 "	18 00
" 300 to 350 "	12 00	" 800 to 900 "	19 00
" 350 to 400 "	13 00	" 900 to 1,000 "	20 00
" 400 to 450 "	14 00	" 1,000 to 1,500 "	21 00
" 450 to 500 "	15 00	" 1,500 to 2,000 "	24 00

NAMES OF PILOTS AND EARNINGS.

No.	Name.	When Appointed.	Age.	Amount Received.
				\$ cts.
1	Joseph Fader	May 1, 1904.	60	196 50
2	Angus B. Morrison	" 1, 1904.	38	196 50
3	Murdoch Carmichael.....	" 1, 1913.	40	196 50
4	Dan Buchanan.....	" 1, 1904.	40	196 50
				\$ 786 00

There are no apprentices in this district.

No white flag ships were licensed during the year.

Eighteen foreign steam vessels, tonnage 22,621, paid pilotage amounting to \$786 during the year.

The amount of \$786 received was paid to pilots without any deduction.

Navigation opened April 25, and is about closed at this date, January 2, 1914.

DONALD McAULAY,

Secretary.

ENGLISHTOWN, January 2, 1914.

REPORT OF THE PILOTAGE COMMISSIONERS OF THE PILOTAGE DISTRICT OF ST. JOHN, N.B.

COMMISSIONERS.

Name.	When Appointed.	Changes.
James Knox	Appointed by City Council, Jan. 31, 1894....	Replaces Edward Lantlum.
Henry Finnegan.....	" " 1913.....	
J. Willard Smith.....	" Board of Trade, Sept. 19, 1894.	
Harold C. Schofield.....	" " Oct. 13, 1911..	
John C. Chesley.	O. C. Oct. 31, 1912.....	
James E. Cowan.....	" " 31, 1912.....	
James Lewis.....	" " 31, 1912.....	

The rates of pilotage for the time being in force in this District, are as follows:—

RATES.

On all steamships not otherwise exempt.

Inward—

1st District	\$2 00 per foot draught of water.
2nd "	2 50 " "
3rd "	3 00 " "

Outward—

To Partridge island.....	\$1 75 per foot.
Down the bay of Fundy (not compulsory).....	2 75 "

SAILING SHIPS.

Inward—

1st District.....	\$1 50 per foot draught of water.
2nd "	1 75 " "
3rd "	2 25 " "

Outward—

To Partridge island.....	\$1 25 per foot.
Down the bay of Fundy (not compulsory).....	2 00 "

Transporting—

200 tons and under.....	\$ 2 00	From 2,000 and up to 2,500.....	\$13 00
From 200 tons and up to 300.....	3 50	2,500 " 3,000.....	15 00
300 " 400.....	4 00	3,000 " 3,500.....	17 00
400 " 500.....	5 00	3,500 " 4,000.....	19 00
500 " 1,000.....	7 00	4,000 " 4,500.....	21 00
1,000 " 1,500.....	9 00	4,500 " 5,000.....	23 00
1,500 " 2,000.....	11 00	5,000 tons and over	25 00

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NAMES OF PILOTS AND EARNINGS.

Names.	When appointed.	Age.	Earnings.
James Bennett.....	1882	56	\$ 2,104 75
Alfred Cline.....	1878	56	736 80
Richard B. Cline.....	1898	42	1,033 20
James Doyle.....	1874	76	1,410 92
Joseph Doherty.....	1874	67	2,212 20
Robert Doherty.....	1908	28	3,317 70
James H. Miller.....	1899	33	1,722 20
William Murray.....	1899	39	2,354 00
Fenwick M. McKelvie.....	1908	27	2,965 60
William Quinn.....	1874	66	2,271 05
Bartholomew Rogers.....	1881	56	2,431 98
James Spears.....	1874	68	664 58
William J. Spears.....	1908	27	1,607 80
Thomas J. Stone.....	1874	60	2,034 61
Richard Scott.....	1874	62	.....
William Scott.....	1878	57	1,680 10
John S. Thomas.....	1875	65	2,270 25
Thomas Traynor.....	1874	60	1,726 61
			32,594 05

NAMES OF APPRENTICE PILOTS, AGES, ETC.

Name.	When appointed.	Age.
John F. Abbott.....	June 1, 1910	17
Wm. P. Traynor.....	"	18
William Scott.....	"	18

These apprentices are paid monthly by the boat to which they are attached.
No white flag ships licensed.

STATEMENT OF VESSELS WHICH PAID PILOTAGE FEES FOR YEAR.

No.	Nationality.	Tonnage.	Amt. Paid
243	British steam vessels.....	815,760	\$ 27,720 98
68	British sailing vessels.....	20,071	2,152 64
35	Foreign steam vessels.....	19,314	1,830 16
160	Foreign sailing vessels.....	61,050	4,608 65
506			\$ 36,312 43

STATEMENT OF PENSION FUND.

At credit of Pilot Fund December 31, 1913.....	\$ 14,823 00
By interest on Bank deposits.....	371 72
Five per cent from net pilotage.....	1,718 95
Amount transferred from Income account.....	846 80

Contra:—	\$ 17,760 47
Pensions paid to pilots, widows and children.....	2,426 25
Balance at credit of Pilot Fund, December 31, 1913.....	\$ 15,334 22

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<i>Receipts.</i>	
Balance December 31, 1912.....	\$ 2,448 89
25 cent- per foot on outward pilotage.....	2,001 93
50 per cent from net pilotage.....	1,718 95
Licenses to 18 pilots.....	90 00
" 3 boats.....	30 00
Interest on Deposit:—	
Dominion Savings Bank.....	276 03
Bank of Nova Scotia.....	95 69
	\$ 6,661 49

<i>Expenditures.</i>	
Pension Account:—	
Pilots.....	\$ 675 00
Widows.....	1,751 25
Auditing.....	25 00
Rent and salaries.....	1,125 00
Stationery.....	25 90
Inspecting boats.....	15 00
Legal services.....	11 00
Telephone.....	54 00
Light.....	4 73
Sundries.....	13 70
Accrued interest, Dominion Savings-	
Bank.....	276 03
Bank of Nova Scotia.....	95 69
Balance in Bank of Nova Scotia.....	2,588 39
	\$ 6,661 49

PILOTAGE BOATS.

No. or Name.	Statement of Cost of Maintenance.
No. 1 <i>Howard D. Troop</i>	Owned and maintained by the Pilots.
No. 2 <i>James U. Thomas</i>	
No. 3 <i>Mina Blanche</i>	

Navigation is open all the year round.

J. U. THOMAS,
Secretary.

St. JOHN, N.B., January 8, 1914.

REPORT OF THE PILOTAGE COMMISSIONERS OF THE PILOTAGE AUTHORITY OF ST. MARY, N.S.

PILOTAGE COMMISSIONERS.

Names.	When appointed.
Capt. Wm. Murdoch, sr.....	O. C. June 10, 1880.....
Capt. David Douglas.....	O. C. Feb. 7, 1905.....
Capt. C. W. Anderson.....	O. C. Feb. 2, 1907.....
James Henlow, jr.....	O. C. Feb. 2, 1907.....

The rates of pilotage dues in force in this district are as follows:—

	Inwards.	Outwards.
Vessels of 120 tons to 160 tons	\$ 5 00	\$ 7 00
" 160 " 230 "	6 00	8 00
" 230 " 400 "	9 00	11 00
" 400 " 500 "	11 00	13 00
" 500 " 600 "	14 00	15 00
" 600 tons and upwards \$1.00 for every 100 tons or part thereof.		

This board has not met since the death of the secretary, Wm. Pride. A meeting was called for June 1. The pilots are licensed for three years, and last year there were two old licenses renewed to carry them along until June this year.

C. W. ANDERSON,
Acting Secretary.

SHERBROOKE, N.S.

SESSIONAL PAPER No. 21

REPORT OF THE PILOTAGE COMMISSIONERS OF THE PILOTAGE DISTRICT OF SYDNEY, C.B.

PILOTAGE. COMMISSIONERS.

Names.	When appointed.
Vincent Mullins (resigned).....	O.C. May 13, 1912.
Capt. T. Desmond	" " 13, 1912.
R. T. J. Voogt.....	" " 13, 1912.
F. C. Kimber	" " 13, 1912.
Arch. McKinnon.....	" Aug. 5, 1912.
Chas. P. Livingston.....	" Jan. 20, 1914

STATEMENT of Vessels which paid Pilotage Fees for the year 1913.

Number.	Nationalty.	Tonnage.	Amount paid.
			\$ cts.
577	British steam vessels.....	906,937	23,471 37
32	" sailing vessels.....	6,411	237 50
381	Foreign steam vessels.....	684,537	16,708 50
23	" sailing vessels.....	3,625	161 00
1,013		1,601,510	40,578 37

The rates of pilotage for the time being in force in this District, are as follows:—

	To Sydney.	To North Sydney.
For vessels under 100 tons.....	\$ 6 00	\$ 5 00
From 100 to 150 tons	7 00	6 00
" 150 to 200 "	8 00	7 00
" 200 to 250 "	9 00	8 00
" 250 to 300 "	10 00	9 00
" 300 to 350 "	11 00	10 00
" 350 to 400 "	12 00	11 00

And for every additional 50 tons or fractional part thereof, \$1; for vessels 800 tons and upwards, \$1 for every additional 100 tons or fractional part thereof. Outward pilotage shall be the same as inward. Vessels, upon being hailed by a licensed pilot outside the limits of the port, but within the pilotage district of Sydney, and refusing to, or not taking such pilot, shall pay half pilotage inwards; and upon being offered the services of a licensed pilot before being ready for sea and refusing the services of such pilot, shall be liable to half pilotage outward. Should the services of a pilot so offering be accepted by the master and afterwards declined, then the vessel shall be liable for full pilotage rates; and any pilot placed in charge of a vessel by the master shall be entitled to receive, in addition to full pilotage rates, the sum of two dollars per diem for each day the vessel may be detained while he is waiting on her, through stress of weather or otherwise. And in case a pilot is taken to sea the ship shall be responsible for his expenses unless returned to the port of Sydney. Vessels spoken by a pilot outside of her harbour limits or changing ports between Sydney and the ports of Lingan, Glace Bay and Cow Bay, shall only be liable for inward pilotage at the loading port, unless a pilot be employed in changing ports, in which case full tariff rates will be charged. Pilots delivering orders outside of port

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limits to vessels to proceed elsewhere shall be entitled to receive full inward pilotage only for such vessels, and pilots prevented from delivering orders after being received by them, by reason of the orders being signalled from light stations shall be entitled to receive full inward pilotage; and if, in any case, another regular pilot belonging to the same port be found in charge the amount of pilotage collected shall be equally divided between the pilot in charge and the pilot delivering orders. Vessels arriving from sea without being spoken inwards by a pilot shall be subject to half pilotage outward unless a pilot be employed, in which case full outward pilotage will be charged, the half pilotage in this case to be paid into the pilotage fund. Vessels calling for orders and remaining outside of harbour limits shall be exempt from outward pilotage unless a pilot be employed.

NAMES of Pilots and Earnings.

Name.	Earnings.
Barrington, Y. H.	\$1,439 52
Brown, Jos.	1,205 82
Burke, T.	1,205 82
Cann, J.	1,439 50
Cann, E. P.	1,439 50
Carroll, J. H.	1,111 26
Carroll, John.	1,151 02
Carroll, L.	1,166 04
Curran, M.	1,205 80
Fraser, G.	1,205 80
Langille, W.	1,205 79
Ling, L.	1,205 79
McGillvary, James.	1,205 79
McGillvary, John B.	191 91
McGillvary, V.	1,439 49
McInnis, D. A.	1,439 49
McNeil, John.	1,205 80
McNeil, Thos.	1,205 80
Mahon, John	882 02
Mullins, Bernard.	1,439 52
Mullins, J. T.	1,439 51
Perry, W.	1,439 51
Petrie, E. F.	1,205 81
Petrie, Henry.	1,205 81
Ratchford, H.	1,205 81
Ratchford, T.	1,205 81
Richardson, A. R.	1,205 81
Rigby, Peter	191 91
Roberts, T.	1,205 81
Rudderham, T.	1,205 81
Shanahan, James	1,151 03
Young, James P.	313 78
	\$36,967 89

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NAMES of Apprentice Pilots and Earnings.

Names.	Earnings.
Connel, John.	\$602 92
McGillvary, Frank	719 84
McGillvary, Wm.	602 92
Morrison, W. D.	602 91
Petrie, Walter.	602 91
Young, James P. (now a pilot)	440 98
	\$3,572 48

WHITE FLAG SHIP'S licensed during the year.

Br. SS. <i>Louisburg</i>	\$100 00
" <i>Cape Breton</i>	100 00
" <i>Cacouna</i>	100 00
" <i>Coban</i>	100 00
" <i>Morwenna</i>	100 00
" <i>City of Sydney</i>	100 00
" <i>Nevada</i>	100 00
" <i>Corunna</i>	100 00
" <i>Beatrice</i>	100 00
	\$900 00

STATEMENT of Pension Fund.

Paid Widows Jno. Petrie, Mrs. McInnis, Mrs. I. McGillvary, Mrs. M. Petrie, Mrs. Dan Petrie, Mrs. C. McGillvary, Mrs. A. Ratchford, Mrs. Mary Ann Brown and Mrs. Jane Brown, \$30 each.	\$270 00
Paid Ex-pilots P. Burke, M. Doyle, W. Ratchford, L. Con- nell, George Townsend and George Fraser, \$50 each	300 00
	\$570 00

RECEIPTS.	EXPENDITURES.
Balance December 31, 1912 \$ 545 80	Paid Pilots and apprentices. \$ 40,540 37
Pilotage receipts. 40,540 37	" Pensions 570 00
Relief. 38 00	" Collectors. 850 00
White Flag Licenses. 900 00	" " office rent. 100 00
Pilot " " " 106 00	" Superintendent. 250 00
Boat " " " 5 00	" W. Fitzgerald, (ex-collector from 1912). 75 00
Commission. 2,139 25	" Commissioners. 775 00
~~Balance~~ Total. \$44,273 42	" Miscellaneous expenses. 29 71
	" Secretary. 500 00
	" " office rent. 100 00
	" Cash in Collector's hands. 326 45
	" balance in bank. 156 89
	Total \$44,273 42

SYDNEY, C.B.,
March 7, 1914.

F. C. KIMBER,

Secretary.

REPORT OF THE PILOTAGE COMMISSIONERS OF THE PILOTAGE DISTRICT OF VANCOUVER, B.C.

PILOTAGE COMMISSIONERS.

Name.	When Appointed.
R. H. Alexander	O. C. February 3, 1883.
C. G. Major	O. C. April 15, 1879.
Frank Burnett	O. C. June 20, 1898.
F. W. Evans	O. C. February 12, 1912.
H. G. Ross	O. C. February 12, 1912.

The rates of pilotatge for the time being in force in this district, are as follows:—
For vessels entering into or clearing from the ports of Vancouver and Howe sound, the rates of pilotage are as follows:—

(a) For vessels under sail, \$2 per foot draught of water and 1 cent per net registered ton.

(b) For vessels in tow of a steamer, \$1 per foot draught of water and 1 cent per net registered ton.

(c) For steamers, \$1 per foot draught of water, and 1 cent per net registered ton.

The pilotage from Cape Flattery or Royal roads to a line drawn from point Atkinson to the nun buoy on Spanish bank, or to the limits of Howe sound and vice versa, is not compulsory, but if the services of a pilot are required, he shall be paid the following rates, viz.:—

From cape Flattery.....	\$6 00 per foot.
“ Callum.....	5 00 “
“ Beechy head.....	4 00 “
“ Race rocks or Royal roads.....	3 00 “

And for vessels under steam or in tow of a steamer the following rates shall be paid:—

From cape Flattery.....	\$3 00 per foot.
“ Callum bay.....	2 50 “
“ Beechy head.....	2 00 “
“ Race rocks or Royal roads (vessels under steam) ..	1 00 “
“ Race rocks or Royal roads (vessels in tow of a steamer)	1 50 “

NAMES OF PILOTS AND EARNINGS.

No	Name.	When appointed.	Age	Amount earned.	Amount paid to.
					\$ cts.
1	W. Ettershank	June 18, 1888.....	71	Pilots work in one com- pany.....	4,297 42
2	H. Robson Jones.....	July 1, 1892.....	58	.....	4,297 41
3	G. W. Roberts	Oct. 1, 1907.....	41	.....	4,297 40
4	R. A. Batchelor.....	May 15, 1910.....	42	.....	3,441 33
5	A. C. Anderson.....	Oct. 16, 1911.....	45	.....	3,797 93
6	A. Christensen	Feb. 1, 1912.....	39	.....	3,797 92
7	B. L. Johnson.....	Jan. 29, 1913.....	35	.....	3,112 58
					27,041 99

No white flag ships licensed during the year.

STATEMENT of Vessels which paid Pilotage during year.

No.	Nationality	Tonnage.	Amount paid.
			\$ cts.
261	British steam vessels.....	1,041,351	20,254 98
19	" sailing vessels	35,258	774 08
639	Foreign steam vessels	821,756	21,413 55
28	" sailing vessels	42,228	990 72
947		1,940,593	\$ 43,433 33

RECEIPTS.		EXPENDITURES.	
	\$ cts.		\$ cts.
Balance in Bank, January 1, 1913.....	2,086 26	Paid Pilots, January 1, 1913	2,086 26
Pilotage earnings, 1913	43,433 33	" during year 1913.....	27,041 89
		Office expense account, 1913.....	1,352 90
		Pilot boats and station expense account, 1913.....	4,375 95
		Pilots' travelling expenses.....	7,672 08
		Balance in Bank.....	2 990 41
	\$45,519 59		\$45,519 59

Navigation is open all the year round.

C. GARDNER JOHNSON,
Secretary.

VANCOUVER, B.C., January 2, 1914.

PILOTAGE COMMISSIONERS.

Names.	When appointed.	Changes.
H. G. Wilson.....	O. C. Nov. 29, 1912..	
G. A. Kirk.	" " 29, 1912..	
W. J. Stevens.....	" " 29, 1912..	
J. R. Saunders.....	" Oct. 8, 1913..	Replaced William Grant.
Geo. Okell.	" " 8, 1913..	" F. A. Pauline.
Joshua Kingham, Secretary.....	" Aug. 26, 1909..	

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The rates of pilotage dues for the time being in force in this district, are as follows:—

Vessels bound to other ports and coming to anchor in Royal roads, the pilotage shall be free, except the services of a pilot are employed, when pilotage according to the following graduated scale shall be payable:—

From inside or north of Race rocks to Royal bay, or vice versa, 50 per cent of the prescribed rates under clause (b), section 18. From Beechy road to Royal roads, or vice versa, \$1 per foot.

From Pillar point to Royal roads, or vice versa, \$3 per foot.

From Cape Flattery to Royal roads or vice versa, \$6 per foot draught of water.

For vessels entering into or clearing from the ports of Victoria and Esquimalt, the rates of pilotage shall be as follows:—

(1) For regular ocean steamers, 50 cents per foot draught of water and $\frac{1}{2}$ cent per net registered ton up to a maximum of 3,500 tons, on the inward voyage, and 50 per cent of the above on the outward voyage subject to a discount of 20 per cent.

(2) For irregular ocean steamers, \$1 per foot draught of water, and $\frac{1}{4}$ cent per net registered ton.

(3) For regular steamers in the coasting trade between San Francisco and Lynn canal, inclusive, the rates shall be the same as for regular ocean steamers as rated in clause 1.

(4) For vessels under sail, \$2 per foot draught of water and 1 cent per net registered ton.

(5) For sailing in tow, \$1.50 per foot draught of water and 1 cent per net registered ton.

(6) For all vessels entering into or clearing from William Head quarantine station, the rates shall be 50 per cent of the prescribed rates of any class of vessel for Victoria and Esquimalt, subject to exemption in section 17, clause 7; provided, however, that all coasters between San Francisco and Lynn canal inclusive, when compelled by special instructions from the Dominion Government to call at William Head quarantine station, shall be exempt from pilotage dues unless the services of a pilot are requested.

(7) For all vessels of 500 tons and under, 75 cents per foot draught of water.

Gulf Pilotage.

For all vessels from the limits of the ports of Victoria and Esquimalt to the limits of all ports on Puget sound and gulf of Georgia, shall be \$1 per foot draught of water.

NAMES of Pilots and Earnings.

Names.	When appointed.	Age.	Amount earned.	Amount paid to.
			\$ cts.	\$ cts.
John Newby.....	1891	65	3,696 77	3,327 16
William Cox.....	1903	58	3,369 02	3,032 16
Charles Israel Harris.....	1910	46	4,530 70	4,077 67
William H. Whiteley.....	1911	51	4,186 15	3,767 60
			15,782 64	14,204 59

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STATEMENT of Vessels which paid Pilotage during the year.

No.	Nationality	Tonnage.	Amount paid.
			\$ cts.
183	British steam vessels	831,837	6,765 42
1	" sailing "	2,139	75 78
330	Foreign steam "	698,321	8,550 92
8	" sailing "	11,409	390 52
522			\$ 15,782 64

RECEIPTS.		EXPENDITURES.	
	\$ cts.		\$ cts.
British vessels.....	6,841 20	Pilots drawing surplus, 1912.....	1,393 26
Foreign "	8,941 44	" 1913.....	14,204 59
Surplus, 1912.....	1,393 26	Secretary's salary, 1913.....	600 00
Licenses.....	1,200 00	Rent and expenses.....	420 00
		Printing.....	33 25
		Miscellaneous Expenses.....	60 90
		Exchange.....	5 58
		Refused payment <i>Glenartney</i>	44 82
		Refund to Findlay, Durham & Brodie,	
		S. S. <i>Vestalia</i>	26 36
		Surplus	1,588 04
	18,375 90		18,375 90

PILOTAGE BOATS.

No. or name.	Statement of cost of maintenance.	—
		\$ cts.
<i>Colby No. 1</i> .. } <i>Colby No. 2</i> ... }	Asper Pilots' monthly log for upkeep of pilots plant.....	3,870 55

Navigation is open all the year round.

J. KINGHAM,
Secretary.

VICTORIA, B.C., January 21, 1914.

5 GEORGE V., A. 1915

REPORT OF THE PILOTAGE COMMISSIONERS OF THE DISTRICT OF WALLACE, CUMBERLAND
COUNTY, N.S.

PILOTAGE COMMISSIONERS.

Name.	When Appointed.
Z. A. MacKay.	O. C. April 30th, 1883.
F. K. Grant.	O. C. Oct. 6th, 1891.
J. W. Morris.	O. C. June 11th, 1879.

The rates of pilotage for the time being in force in the District, including the amounts and description of charges upon shipping, are as follows:—

Vessels of	Inward.	Outward.
80 tons and under 160 tons.	\$ 6 00	\$ 4 00
160 " " 230 "	9 00	6 00
230 " " 400 "	12 00	8 00
400 tons upward	14 00	10 00

On all vessels under 80 tons accepting the services of a pilot, five cents per ton inward and four cents per ton outward. Steamers rated at net tonnage. The above rates are for pilotage to or near the Wallace-Huestis grey stone wharf; up Wynn's channel to the Plaster wharf, or up the Fox harbour channel. Vessels requiring the services of a pilot to Wallace bridge, shall pay twenty-five cents per foot (draught), or if the Wallace freestone quarries or up to the bay of the Abiteau, then the sum of five cents per foot each way additional.

NAMES AND DATES OF APPOINTMENTS OF PILOTS.

Alexander Patten, August, 1898.

Hudson Langille, October, 1892.

There are no apprentice pilots in this district.

No white flag ships licensed during the year.

No vessel entered subject to pilotage during the year.

Navigation opened about April 15, and closed about December 15.

JOHN W. MORRIS,
Secretary.

WALLACE, N.S., December 31, 1913.

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APPENDIX No. 16.

List of live stock shipped from May, 1913 to May, 1914, to ports in Great Britain.

MONTREAL.

Months.		Sheep.	Horses.	Cattle.	Mules.	U.S. Cattle.
May,	1913.....		16	27		
June,	1913.....		4	444	30	
July,	1913.....		1			
August,	1913.....	80	31			
September,	1913.....		35			
October,	1913.....	216	9	17	67	
November,	1913.....		38	24		
		296	134	512	97	

COMPARATIVE STATEMENT of the Number of Cattle shipped from Canada to British ports from the years 1904-5 to 1913-14.

	SHEEP.			CATTLE.			HORSES.			TOTALS.		
	Montreal.	St. John.	Halifax.	Montreal.	St. John.	Halifax.	Montreal.	St. John.	Halifax.	Sheep.	Cattle.	Horses
1913-14...	296	Nil.	Nil.	512	Nil.	Nil.	134	Nil.	Nil.	296	512	134
1912-13...	178	"	"	6,469	"	"	175	"	"	178	6,469	175
1911-12...	3,725	1,798	"	45,866	2,001	"	138	* 14	"	5,523	47,967	152
1910-11...	248	2,508	"	72,555	3,301	"	497	19	"	2,756	75,856	516
1909-10...	1,616	Nil.	"	94,314	4,632	"	286	Nil.	"	1,616	98,946	286
1908-9....	10,111	151	"	99,830	22,923	3,097	116	65	"	10,262	125,850	181
1907-8...	11,585	4,168	"	96,977	20,210	Nil.	174	51	"	15,753	127,187	225
1906-7....	10,791	1,371	"	128,160	38,148	"	661	57	"	12,162	159,308	718
1905-6....	19,077	3,971	"	126,871	33,548	1,042	568	79	"	23,048	161,456	647
1904-5....	49,422	17,283	"	108,553	33,833	745	279	213	"	66,715	143,131	492

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[illegible]

NOVA SCOTIA.

Advocate Harbour.	E. C. Moore.	4	5	3 50	13	8	8 90	17	13	12 40
Amherst.	B. W. Balser.	2	6	2 80	1	3	1 40	3	9	4 20
Annapolis.										
Antigonish										
Apple River.										
Arichat	A. F. Boudrot	5	2	3 10	1	9	3 20	6	11	6 30
Baddeck	Victoria									
Barrington	D. Sargent.	4		2 00	3	5	3 00	7	5	5 00
Barton	F. W. Hutchison	37	13	22 40	41	33	31 40	78	46	53 80
Bayfield.										
Bayview Cove.	E. E. Thertault.	28	14	18 20	26	24	20 20	54	38	38 40
Bear Harbour.	Digby									
Bear River.	W. W. Wade.	13	27	17 10	25	36	23 30	38	63	40 40
Bridgewater	R. L. McLatchy.	30	11	18 30	69	64	53 70	99	75	72 00
Canning										
Canso	P. C. Callen	33	3	17 40	15	6	9 30	48	9	26 70
Church Point.	Philip A. Saulnier			5	6	5	3 90	6	9	3 90
Clark Harbour	Ephraim Nickerson	3	3	2 40	2	5	3 50	5	8	5 90
Clementsport.	W. C. Jones.	16	16	12 80	30	28	23 40	46	44	36 20
Cheverie	Nelson Brady									
Descosse.	Felix Landry (act.)	5		2 50		6	1 80	5	6	4 30
Digby	A. M. Gidney				47	45	37 00	47	45	37 00
Guysborough	H. M. Scott				4	7	4 00	4	7	4 00
Halifax.	Howard Bligh	1,871	1,524	1,392 70	1,990	1,902	1,565 60	3,861	3,426	2,958 30
Hastings										
Harbour au Bouche	J. W. Lawrence.	4		2 00	9	5	6 00	13	5	8 00
Jordan Bay.										
Lehave	E. Lyle Martin.	15	72	41 10	104	56	68 80	119*	128	109 90
Leiscomb.	William Maschke.	14	6	8 80	7	12	7 10	21	18	15 90
	William Hemlon.									

*18 fishing crews at \$2.50 each crew.

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STATEMENT showing the result of returns of shipping and discharging of seamen, &c.—Continued.

NOVA SCOTIA—Concluded.

Name of Port.	Name of County.	Name of Shipping Master.	HALF YEAR ENDING JUNE, 1913.			HALF YEAR ENDING DEC. 1913.			TOTAL.		
			Seamen Shipped.	Seamen Discharged.	Amount.	Seamen Shipped.	Seamen Discharged.	Amount.	Seamen Shipped.	Seamen Discharged.	Amount.
											\$ cts.
Liverpool.....	Queens.....	W. G. Hemeon.....	76	38	\$ 49 40	46	45	\$ 36 50	122	83	\$ 85 90
Lockeport.....	Shelburne.....	J. R. Ruggles.....	1		0 50	31	20	21 50	32	20	22 00
Londonderry.....	Colchester.....	J. A. Blaikie.....	Nil.								
Lunenburg.....	Lunenburg.....	William Stupe.....	156	176	130 80	265	160	180 50	421	336	311 30
Louisburg.....	Cape Breton.....	Arthur Townsend.....	134	160	115 00	118	153	104 90	252	313	219 90
* Mahone Bay.....	Lunenburg.....	J. Enoch Mason.....	48	62	62 60	71	35	46 00	119	97	108 60
Main-a-Dieu.....	Cape Breton.....										
Matland.....	Hants.....	Rankin McDougall.....	1	1	0 80	3	3	2 40	4	4	3 20
Margaree.....	Inverness.....										
Margaretsville.....	Annapolis.....										
Metegonish.....	Pictou.....	T. B. Olding.....	Nil.		6 60	Nil.		6 60	16	15	12 20
Meteghan.....	Digby.....	L. T. Melanson.....	9	7		7	8				
Mulgrave.....	Guyssborough.....										
New Campbellton.....	Victoria.....										
North East Harbor.....	Shelburne.....		412	172	257 60	510	192	312 60	922	364	570 20
North Sydney.....	Cape Breton.....	M. J. Ross.....	82	70	62 00	63	52	47 10	145	122	109 10
Parrsboro.....	Cumberland.....	E. Woodworth.....	71	17	40 60	48	52	39 60	119	69	80 20
Pictou.....	Pictou.....	John Waters.....	13	17	13 30	39	34	33 10	52	51	46 40
Port Gravelle.....	Guyssborough.....	H. G. Pettis.....	1	2	1 00	6	4	4 20	7	6	5 20
Port Hawkesbury.....	Inverness.....	James McLean.....	5	2	3 10	13	8	8 90	18	10	12 00
Port Hastings.....	Inverness.....	George L. McLean.....	Nil.								
Port Hood.....	Inverness.....	E. Mc D. Tremain.....									
Port Lorne.....	Annapolis.....		15	14	11 70	15	15	12 00	30	29	23 70
Port Mulgrave.....	Guyssborough.....	M. J. Keating.....	Nil.								
Port la Tour.....	Shelburne.....	Benj. R. Smith.....	"								
Port Medway.....	Queens.....	T. Sabean.....									
Port Morien.....	Cape Breton.....										
Port Williams.....	Kings.....	J. R. Starr.....	Nil.				1	0 30	1	1	0 30
Port Wade.....	Annapolis.....										
Pubnico.....	Yarmouth.....	J. L. Bellevue.....	Nil.								
Pugwash.....	Cumberland.....		4								
River Hebert.....	Lunenburg.....	J. F. Moffatt.....	8	15	2 30	8	15	4 00	16	30	4 30
Riverport.....	Lunenburg.....	Stephen Ritecy.....	Nil.		8 50	Nil.		8 50			17 00
St. Anns.....	Victoria.....	B. R. Smith (actg).....	34								
St. Peters.....	Richmond.....	A. W. Morrison.....			17 00	37		18 50	71	5	35 50
Salmon River.....	Digby.....	T. P. Deveau.....	5		2 50	5	5	4 00	10		6 50

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Sheet Harbour	Halfax.	Nil	6	1 80	3	1 50	3	6	3 30
Shelburne	Shelburne	11	4	6 70	10	6 80	21	10	13 50
Spencer Island	Cumberland.	164	122	118 60	334	253 10	49 8	409	371 70
Sydney	Sydney								
Thorne Cove	Annapolis								
Truro	Colchester								
Tatamagouche	"	Nil							
Wallace	Cumberland.								
Walton	Hants				8	5 80	8	6	5 80
West Arichat	Richmond.								
Weymouth	Digby	25	16	17 30	45	35 70	70	60	53 00
Windsor	Hants	20	22	16 60	26	20 50	46	47	37 10
Wolfville	Kings	Nil							
Yarmouth	Yarmouth.	427	282	298 10	446	354 70	873	721	652 80
							8,360	6,776	6,253 30

PRINCE EDWARD ISLAND.

Alberton	Prince	113	12	60 10	210	90	323	102	192 10
Charlottetown	Queens	Nil			4	1	4	1	1 20
Crapaud	"	28		14 00	Nil		28		14 00
Georgetown	Kings								
Malpeque	Prince								
Murray Harbour	Queens	Nil	Nil		Nil				
Montague	Kings	"	"		"				
Pinette	Queens								
Port Hill	Prince								
St. Peters	Kings	Nil							
Souris	"	6	6	4 80	12	6	18	12	12 60
Summerside	Prince								
Tignish	"								
							373	115	219 90

BRITISH COLUMBIA.

Aboiact	Vancouver	Nil				Nil			
Clayoquot	Comox-Atlin								
Hesquiat	Vancouver								
Kynooquot	Comox	5	3	3 40	7	2	12	5	7 50
Massett	Comox-Atlin	Nil	Nil		Nil				
Prince Rupert		254	107	179 10	261	341	515	448	424 40
New Westminster	New Westminster	16	2	4 30	4	7	20	9	6 35
Victoria	Victoria	1,318	1,002	959 60	916	869	2,234	1,871	1,678 30
Vancouver	New Westminster	1,036	945	944 90	1,200	1,187	2,236	2,132	2,060 90
							5,017	4,465	4,177 45

APPENDIX No. 18.

REPORTS OF SUBSIDIZED WRECKING COMPANIES.

REPORT OF THE QUEBEC SALVAGE AND WRECKING COMPANY.

The entire plant has been held available for services from the opening to the close of navigation on the St. Lawrence river during the above mentioned period with a complete staff of wreckers and divers. Following operations have been performed:—

1912.

- May 24. SS. *Ultonia* assisted vessel from Quebec to below the traverse.
- September 25. Barge *Zapotec* sunk at Bersimis, floated her and brought her to Quebec.
- October 6. SS. *Bengore Head* went to assistance and stood by her from Strait of Belle Isle to Quebec.
- October 19. Barge *Omaha*, towed her off from Bersimis.
- October 31. SS. *Bellona* sunk at Lower Traverse, floated her and brought her to Quebec.
- November 6. SS. *Royal George* ashore at St. Lawrence point, supplied her with pumps, pulled her off and brought her to Quebec.
- November 10. SS. *Gladstone* ashore at St. Lawrence point, supplied her with pumps, pulled her off and brought her to Quebec.

1913.

- May 31. SS. *Floriston* sunk at Pointe Platon, supplied her with pumps, lifted her and brought her to Quebec.
- June 24. SS. *Cruizer* sunk at St. Catharine's bay, floated her and brought her to Quebec.
- July 29. SS. *Lady of Gaspé* sunk off Cap de la Madeleine, patched up hole 9 by 20 feet under water, lifted her and brought her to Quebec.
- September 16. SS. *Whakatane*. This ship ran into Gilmour's wharf where she landed with her foreship, towed her off and brought her to Quebec.
- October 16. SS. *Empress of Ireland*, rendered diver's services clearing propeller.

SALVAGE SERVICES RENDERED BY DOMINION COAL COMPANY IN MARITIME PROVINCES.

NOTE.—Received too late for the Deputy Minister's report.

January 14, 1914. Newspapers reported R.M.S. *Cobequid* with about 150 passengers ashore on Trinity ledges, bay of Fundy. Despatched tug *Springhill* from St. John immediately to scene to take passengers off and render all possible assistance to steamer. Before tug reached scene, passengers had been rescued by other steamers and *Cobequid* declared to be a total loss.

January 25, 1914. Steamer *Astarte* parted her moorings in Louisburg harbour during a heavy southerly gale and drifted ashore. Despatched tug *C. M. Wince* to her assistance, but help was declined by the *Astarte*. Tug, however, stood by until steamer succeeded in getting off without assistance.

February 24, 1914. Ordered ss. *Morwenna* while on voyage from Halifax to New York to look out for ss. *Lingan*, which was then five days overdue at Louisburg on passage from Boston. On February 26, *Morwenna* picked up *Lingan* 100 miles south-east of cape Cod in a helpless condition with propeller gone and in grave danger of drifting ashore. *Morwenna* with great difficulty towed the disabled steamer into Boston harbour and anchored her in a place of safety.

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March 5, 1914. Steamer *Easington* was reported as being caught in heavy drift ice near Guyon island, with propeller broken, short of fuel, provisions and fresh water. Despite the presence of heavy floating ice the tug *Douglas H. Thomas* was sent from Louisburg during a heavy snowstorm to rescue the crew and save steamer if possible. The tug reached disabled steamer and with great difficulty, as well as grave danger to herself, succeeded in towing steamer through the heavy ice to within four miles of Louisburg, where an enormous quantity of ice was encountered and no further progress could be made. Tug, however, stood by all night and during part of the following day, or until the Government ice-breaking steamer *Stanley* came along and cleared a passage through the drift-ice, after which all three vessels reached port.

March 10, 1914. Eight Government employees walked on closely packed ice out to buoy in Louisburg harbour to make repairs. While engaged in making the repairs the ice moved off with the outgoing tide. The ss. *Louisburg* was sent from her berth at Louisburg pier and rescued them.

March 15, 1914. SS. *Cape Breton* transferred nine tons of bunker coal to the ss. *Seal*, which was caught by drift ice ten miles west of Louisburg completely out of fuel, thus enabling the *Seal* to reach port safely.

March 17, 1914. SS. *City of Sydney* struck Sambro ledges during a dense fog. Sent ss. *Cabot* from Halifax and tug *Douglas H. Thomas* to her assistance. Steamer, however, was found to be full of water fore and aft and became a total loss. The ss. *Cabot* salvaged a portion of her cargo and landed it at Halifax.

REPORT OF BRITISH COLUMBIA SALVAGE COMPANY.

Report of Operations SS. "Salvor," January 14, 1914, to November 30, 1914.

January 26-28. Attending ss. *Princess Sophia*, ashore Blinkinsop bay, Johnson sts., B.C., and delivering her safely at Esquimalt.

August 19-October 5. To working at ss. *Prince Albert*, ashore on Tree Knob group, and delivering her safely at Esquimalt.

October 15-20. Convoying ss. *Prince Albert* from Esquimalt to Vancouver.

REPORT AND EVIDENCE
OF THE
COMMISSION OF INQUIRY

INTO

THE LOSS OF THE BRITISH STEAMSHIP "EMPRESS OF IRELAND"
OF LIVERPOOL (O. No. 123972) THROUGH COLLISION WITH
THE NORWEGIAN STEAMSHIP "STORSTAD."
QUEBEC, JUNE, 1914.

PRINTED BY ORDER OF PARLIAMENT



OTTAWA

PRINTED BY J. DE L. TACHE, PRINTER TO THE KING'S MOST
EXCELLENT MAJESTY

1914

[No. 21b—1915.]

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COMMISSION OF INQUIRY
INTO THE LOSS OF THE BRITISH STEAMSHIP
“EMPRESS OF IRELAND,”
OF LIVERPOOL (O. No. 123972)
THROUGH COLLISION WITH THE
NORWEGIAN STEAMSHIP “STORSTAD.”

FIRST DAY.

QUEBEC, Tuesday, June 16, 1914.

The Commissioners appointed by the Honourable John Douglas Hazen, the Minister of Marine and Fisheries of Canada, under Part X of the Canada Shipping Act as amended, to enquire into a casualty to the British Steamship *Empress of Ireland*, in which the said steamship belonging to the Canadian Pacific Railway Company was sunk in collision with the Norwegian Steamship *Storstad*, in the River St. Lawrence on the morning of Friday the 29th day of May, 1914, met at Quebec this morning, the sixteenth day of June, 1914.

PRESENT:

Commissioners:

The Right Honourable JOHN CHARLES, BARON MERSEY, President;

The Honourable EZEKIEL MCLEOD, Chief Justice of New Brunswick, local Judge in Admiralty for the Exchequer Court of Canada for the New Brunswick Admiralty District;

The Honourable Sir ADOLPHE BASILE ROUTHIER, Ex-Chief Justice of Quebec, local Judge in Admiralty of the Exchequer Court of Canada for the Quebec Admiralty District.

Assessors:

Commander W. F. CABORNE, C.B., R.N.R.

Engineer Commander P. C. W. HOWE, R.N.

Capt. L. A. DEMERS, F.R.A.S., Dominion Wreck Commissioner.

Professor JOHN JOSEPH WELCH, M. Sc. Inst. C.E.

ALLEYN TASCHEREAU, Secretary of the Commission.

At the opening of the Court, the Secretary read the Commission:

CANADA.

To the Right Honourable JOHN CHARLES, BARON MERSEY, The Honourable EZEKIEL MCLEOD, Chief Justice of New Brunswick and Local Judge in Admiralty of the Exchequer Court of Canada for the New Brunswick Admiralty District, and the Honourable Sir ADOLPHE BASILE ROUTHIER, Local Judge in Admiralty of the Exchequer Court of Canada for the Quebec Admiralty District.

GREETING:

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KNOW YOU that under and by virtue of the provisions of Part X of the Canada Shipping Act as amended, and in virtue of all other powers in that behalf in me vested, I, the Honourable John Douglas Hazen, The Minister of Marine and Fisheries of Canada, do hereby nominate, constitute and appoint you, the said John Charles, Baron Mersey, Ezekiel McLeod and Sir Adolphe Basile Routhier to be Commissioners to hold a formal investigation, under and subject to the requirements of the said Part X of the Canada Shipping Act as amended, into and concerning a shipping casualty which I, the said Minister, consider to be of extreme gravity and special importance, and with respect to which I have ordered a formal investigation under the authority of the said statute, whereby the British steamship *Empress of Ireland* of about 8,028 tons, registered tonnage, official number 123972, of which the Canadian Pacific Railway Company was the registered owner and H. G. Kendall was the Master, was sunk in collision with the Norwegian steamship *Storstad*, in the River St. Lawrence on the morning of Friday the twenty-ninth day of May, 1914, and many lives of the passengers and crew of the said steamship *Empress of Ireland* were lost.

TO HAVE AND TO HOLD exercise, and enjoy the office of Commissioners as aforesaid unto you the said John Charles, Baron Mersey, Ezekiel McLeod, and Adolphe Basile Routhier, together with all and every the powers, rights, authority and privileges, and subject to the obligations and requirements, under and by virtue of the said Part X of the Canada Shipping Act to or in respect of the said office of right or by law appertaining or enacted.

And I do moreover designate you, the said John Charles, Baron Mersey, to be the President of the said Commission or court hereby constituted.

Given under my hand at Ottawa this 13th day of June, in the year of Our Lord one thousand nine hundred and fourteen.

J. D. HAZEN,

Minister of Marine and Fisheries, of Canada.

At the request of Lord Mersey the following appearances were announced:—

For the Crown—

E. L. Newcombe, K.C., Deputy Minister of Justice.

Eusèbe Belleau, K.C.,

Assisted by Alexander Johnston, Deputy Minister of Marine and Fisheries of Canada, and George C. Vaux, for the British Board of Trade.

For Canadian Pacific Railway Company—

Butler Aspinall, K.C.

E. W. Beatty, General Counsel, C.P.R.

Fred. E. Meredith, K.C.

A. R. Holden, K.C.

For Master, Engineers and Officers of the 'Empress of Ireland'—

Aimé Geoffrion, K.C.

Cecil Thompson.

For 'Storstad'—

C. A. Duclos, K.C.

Charles S. Haight.

John W. Griffin.

Norman B. Beecher.

Arthur Fitzpatrick.

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For Dominion Coal Company, Charterers of the 'Storstad'—

Hector MacInnes, K.C.

For the Shipping Federation of Canada—

Thomas Robb, Manager and Secretary.

For National Sailors' and Firemen's Union of Great Britain and Ireland—

George F. Gibsone, K.C.

(LORD MERSEY to Mr. Gibsone).—You may appear and put any questions you wish to put through the Bench. Now, Mr. Newcombe, will you be kind enough to state your case?

MR. NEWCOMBE.—My Lord, the commission has been read and the purpose of the inquiry has been made known. It is a commission constituted under statutory powers to investigate the causes of a shipping casualty which most deplorably reaches the dimensions of an appalling disaster. The steamship *Empress of Ireland* left Quebec at about twenty-seven minutes past four on the afternoon of the 28th of May in charge of the Quebec pilot Camille Bernier with a crew of 420 hands and 1,057 passengers of whom 87 were first class, 253 second class and 717 third class, and carrying some general cargo bound for Liverpool. She put down her pilot at Father Point at about half past one in the morning of the 29th of May and proceeded to sea. She arrived off Cock Point buoy, which is the next point marked upon the chart shortly below Father Point on the south shore of the St. Lawrence, at, or about, two o'clock, and at that time, apparently, as far as I understand the case, she was still on her course to make the offing usual or necessary before directing her course down the river to the sea. At that place she came into collision with the Norwegian steamer *Storstad*, which was bound from Sydney, Nova Scotia, up the river to Montreal with a full cargo of coal. On board the *Empress* there were 1,477 persons; 463 were saved and 1,014 lost their lives. The catastrophe was very sudden; the *Empress of Ireland* received a very severe blow on her starboard side struck by the starboard bow of the *Storstad*. She began to fill, turned over on her beam ends and sank almost immediately; according to the estimate she remained afloat not more than fifteen or twenty minutes at the outside from the time of the contact.

As to the classification and rating of the passengers and crew, there were 87 first class passengers of whom 36 were saved and 51 lost; of the 253 second class passengers, 48 were saved and 205 lost; of the 717 third class passengers, 133 were saved and 584 lost. Of the crew of 420 hands, 246 were saved and 174 lost. These figures have been supplied by the owners of the ship and are subject to correction in the inquiry. I am informed that they have experienced very great difficulty in getting out an exact list owing to the discrepancies in the names of the passengers, particularly in regard to the continentals, shown on the manifest, and the names given by the survivors. The figures, therefore, must be accepted subject to such further information as may be obtained in the inquiry.

This dreadful catastrophe was the subject of very earnest consideration by His Majesty's Government and by the Government of this country, and the sympathy of both Governments, no doubt, goes out in the largest measure to the survivors and to the relatives and friends of those who so unfortunately perished. It was felt that the case invited the most searching inquiry, not only to ascertain the immediate cause of such an extraordinary and disastrous occurrence, but also that the investigation might extend to the more remote causes, if any, connected with the structure, equipment or mechanism of the ship so that it might be known whether any lesson could be learned for future guidance in the projecting, preparation and outfitting of passenger ships in order to see to their preservation in case of similar accidents.

Communications were exchanged between the two Governments. It was considered that the case should properly be investigated in Canada where the accident

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occurred and that the best talent, skill and experience should be made available upon the Commission of Inquiry. Special legislation was obtained at the Session of Parliament which has just closed. Your Lordship yielded to an invitation to preside at the inquiry, two distinguished Canadian Judges have loaned their services, technical officers and assessors in various branches of the sciences, arts and crafts involved, architecture, structure and navigation, have been named; and so, as this has been the most dreadful shipping disaster in the history of the country, the most important Board ever constituted here to consider a shipping casualty has been named to investigate and inquire.

The causes, present and remote, contributing to the accident will doubtless be ascertained. I am not quite, at the moment, in a position, unfortunately, to outline or indicate to the Court the rival contentions of the two ships. They had apparently sighted each other and come into such relations as would require their navigating officers to determine the application of the rules for safe crossing at a time and under conditions which not only made possible but should have facilitated the execution of any proper manœuvre and it would seem to be impossible to suppose that such an accident could have occurred without fault on the part of one or perhaps both of the ships concerned. It will be realized that the force of the collision was very great and that immense damage must have been done to the hull of the *Empress of Ireland* considering that she remained afloat for only a few minutes. This is a very great shock to the confidence which people were beginning to feel in the floating capacity of these large passenger ships and to their belief that no collision, no matter how severe, could have the effect of sinking a ship of the size and equipment of the *Empress* in such a short space of time. The nature of the damage which the *Empress* received cannot be proved. She disappeared immediately. Divers have been there but I am informed that it is impossible for divers, owing to the fact that she is lying on her wounded side in the mud, to ascertain what the condition of the starboard side of the ship is unless the ship can be raised which, I anticipate, is impossible. Plans and details of the ship will be produced and witnesses will be called to explain and comment on these phases of the case. Explanations will be called for as to the boats, life preservers and such life-saving furniture as were provided. Moreover, it is intended to afford the fullest opportunity, and an invitation is extended to all persons who can give any useful information or make any material inquiries or statements, to come forward and assist the Tribunal with testimony or suggestions.

By reference to the chart it will be seen that the accident happened 700 miles or more from the point where the St. Lawrence expands into the gulf, and yet the *Empress* was only at the beginning of the great waterway which forms such a magnificent entrance to this country. The St. Lawrence route is, of course, not free from those perils which are incident to all navigation in touch with the land, but the Government has taken care to provide an adequate system of lights and the channel has been well buoyed and marked where requisite in order to make safe, as far as may be artificially possible, the unequalled natural advantages which have been provided by this magnificent system of river and lake navigation. It is anticipated with confidence that those who desire to disparage the St. Lawrence route cannot propound or suggest a reason for attributing this disaster to any peril especially incidental to the St. Lawrence route or even to the river navigation. The question of pilotage is not involved. The ship had passed the pilotage district. She was in sea-way of upwards of 30 miles in breadth. She lies upwards of two miles from the south shore from which she was making her offing, so that the difficulties of navigation, whatever they may have been, were not due to the proximity of the land or to the lack of sea room. The pilotage district extends from Quebec to Father Point. That was the place where the pilot was put down, and the *Empress* was at that time opposite that point. The vessels were practically in such a position that they were at sea and the regulations for preventing collisions at sea applied to the case.

In accordance with the requirements of the general rules for formal investigations into shipping casualties under the Merchant Shipping Act, and having regard

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to the provisions of The Canada Shipping Act, part 10, sections 788 and 795, the surviving officers of the *Empress of Ireland*, and the officers of the Norwegian vessel, have been served with notice and questions. Section 788 of The Canada Shipping Act, and there is a similar section in the Merchant Shipping Act, 1894, provides that:

“Whenever a formal investigation is likely to involve a question as to cancelling or suspending of the certificate of competency or service of any master, mate, pilot, or engineer, he shall be furnished with a copy of the report or statement of the case upon which the investigation has been ordered.”

And 795:

“Every formal investigation shall be conducted in such manner that, if a charge is made against any person, such person shall have an opportunity of making a defence.”

A report of the case was made by the Deputy Minister of Marine and Fisheries on the 10th of June to the Minister in these terms:—

DEPARTMENT OF MARINE AND FISHERIES,

OTTAWA, June 10, 1914.

EMPRESS OF IRELAND—STORSTAD COLLISION.

SIR,—I have the honour to report that on Thursday, the 28th ultimo, the British steamship *Empress of Ireland*, official No. 123972, of 8,208 tons register, owned by the Canadian Pacific Railway Company and in charge of Captain H. G. Kendall as master, sailed from Quebec on a regular voyage to Liverpool, carrying, in addition to her officers and crew, a large number of passengers. She called at Rimouski, in the ordinary course of her voyage, and left there in the early morning of the 29th ultimo, putting down her pilot at Father Point, and proceeding to sea. Very shortly afterwards, and within a few miles of Father Point, for some most unfortunate reason, of which I am not informed, the *Empress of Ireland* came into collision with the Norwegian steamship *Storstad*, which was proceeding up river on a voyage from Sydney to Montreal, with the result that the former sank within a few minutes after the collision and a great number of her passengers and crew were drowned. The loss of life is approximately estimated at 1,000 souls. It is, of course, obvious that the collision could not have occurred without fault in the navigation of one or other or both of the vessels concerned, and it is, I submit most important in the public interest that a formal investigation should be held under the provisions of the Canada Shipping Act to ascertain the facts of the case and the causes which led to the disaster.

I, therefore, recommend that a formal investigation be ordered pursuant to the provisions of the law in that behalf.

I have the honour to be, Sir,

Your obedient servant,

A. JOHNSTON,

Deputy Minister of Marine and Fisheries.

The Honourable

The Minister of Marine and Fisheries.

Ottawa.

The recommendation is approved by the endorsement of Mr. Hazen, the Minister, upon the letter as follows: ‘Recommendation hold formal investigation approved.
J. D. H.’

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This has been served, as well as the questions which have been formulated and which are as follows:—

1. When the SS. *Empress of Ireland* left Quebec on or about the 28th of May last—

(a) What was the total number of persons employed in any capacity on board her, and what were their respective ratings?

(b) What was the total number of her passengers, distinguishing sexes and classes and discriminating between adults and children?

2. On leaving Quebec, on or about the 28th day of May last, did the SS. *Empress of Ireland* comply with the requirements of the M. S. Acts, 1894 to 1906, and the rules and regulations made thereunder, with regard to the safety and otherwise of 'passenger steamers' and 'emigrant ships'?

3. In the actual design and construction of the SS. *Empress of Ireland* what special provisions, if any, were made for the safety of the vessel and the lives of those on board, in the event of collisions and other casualties?

4. Was the SS. *Empress of Ireland* sufficiently and efficiently officered and manned?

5. Were the arrangements for manning and launching the boats on board the SS. *Empress of Ireland* in case of emergency proper and sufficient? Had a boat drill and bulkhead door drill been held on board, and if so when? What was the carrying capacity of the respective boats? What number and description of life buoys and life jackets were on board the vessel? Where were they carried? Were they in good condition and adequate for the purpose intended?

6. What installations for receiving and transmitting messages by wireless telegraph were on board the SS. *Empress of Ireland*? How many operators were employed in working such installations? Were the installations in good and effective working order? Were the number of operators sufficient to enable messages to be received and transmitted continuously by day and night?

7. At or prior to the sailing of the SS. *Empress of Ireland* from Quebec on the 28th May last, what, if any, instructions as to navigation were given to the master, or known by him to apply to her voyage? Were such instructions, if any, safe, proper and adequate, having regard to the time of the year and dangers likely to be encountered during a voyage?

8. When leaving Quebec on or about the 28th of May last, was the vessel in charge of a Quebec pilot? If so, when and where was the pilot discharged, and what was the condition of the weather at that time?

9. After the pilot left the ss. *Empress of Ireland* was a double watch on deck?

10. At what time on the morning of the 29th May last—

(a) did the *Empress of Ireland* first sight the light or lights of the Norwegian steamer *Storstad*, and in what position was the *Empress* then?

(b) did the Norwegian steamer *Storstad* first sight the light or lights of the SS. *Empress of Ireland* and in what position was the *Storstad* then?

At this time were the vessels crossing so as to involve risk of collision within the meaning of Art. 19 of the regulations for preventing collision at sea? If so, did the *Empress of Ireland* comply with the provisions of the said article and of articles 22 and 23, and did the SS. *Storstad* comply with article 21 of said regulations?

11. After the vessels had sighted each other's lights did the atmosphere between them become foggy or misty, so that lights could no longer be seen? If so, did both vessels comply with article 15 and did they respectively indicate on their steam whistles or sirens the course or courses they were taking by the signals sent out in article 28 of the said regulations?

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12. Were the circumstances of this case such as to bring into operation the provisions of articles 27 and (or) 29 of the said regulations? If so, did the masters of both vessels take prompt and proper means or measures to comply with the requirements of the said articles?

13. In what position in the River St. Lawrence and at what time on the morning of the 29th of May last, did the collision occur between the SS. *Empress of Ireland* and the SS. *Storstad*? At what time did the SS. *Empress of Ireland* founder, and how was it that she sank so quickly after the collision had occurred?

14. Was proper discipline maintained on board the SS. *Empress of Ireland* after the casualty occurred?

15. What messages for assistance were sent by the *Empress of Ireland* after the casualty, and at what times respectively? Were the messages sent out received at the wireless station at Father Point? Were prompt measures taken by those on shore to render assistance? What assistance was rendered by the Government steamers *Eureka* and *Lady Evelyn*?

16. Was the apparatus for lowering the boats on the SS. *Empress of Ireland* at the time of the casualty in good working order? How many boats were got away before the vessel sank?

Did the boats, whether those under davits or otherwise, prove to be serviceable for the purpose of saving life? If not, why not? What steps were taken immediately on the happening of the casualty? How long after the casualty was its seriousness realized by those in charge of the vessel? What steps were then taken? Were all water-tight doors in bulkheads immediately closed? What endeavours were made to save the lives of those on board and to prevent the vessel from sinking?

17. How many persons on board of the SS. *Empress of Ireland* at the time of the casualty lost their lives by (1) being killed by the collision, or injuries from the collision, (2) accidents on board?

What was the number of (a) passengers; (b) crew, taken away in each boat on leaving the vessel? How was this number made up, having regard to 1, sex; 2, class; 3, ratings?

How many were children and how many were adults? Did each boat carry its full load, and if not, why not?

How many persons were ultimately rescued, and by what means? What was the number of passengers, distinguishing between men and women, and adults and children, of the first, second and third classes respectively, who were saved? What was the number of the crew, discriminating their ratings and sex, who were saved?

18. Did the Master of the SS. *Storstad* comply with Article 422 of the M.S.A., 1894?

19. Was a good and proper lookout kept on board of both vessels?

20. Was the loss of the *Empress of Ireland* and (or) the loss of life caused by the wrongful act or default of the Master and First Officer of that vessel, and the Master, First, Second and Third Officers of the SS. *Storstad*, or of any of them?

These are the questions and the order for the inquiry which have been served.

(To Mr. Geoffrion): Do you admit service upon the master?

Mr. GEOFFRION.—If my learned friend will give me the names of those he claims to have served I will tell him.

Mr. NEWCOMBE.—Do you admit service on H. G. Kendall, master; Edward Jones, first officer, and William Sampson, chief engineer?

Mr. GEOFFRION.—Yes.

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Mr. NEWCOMBE (to Mr. Duclos).—Do you admit service upon Thomas Andersen, master; Alfred Toftenes, first officer; Einar Reinertz, second officer; Jakob Saxe, third officer; L. Syvertsen, chief engineer, and Jakob Singhalsen, third engineer of the *Storstad*?

Mr. DUCLOS.—We admit service.

LORD MERSEY.—Will you give us copies of the letter and questions you have read?

Mr. NEWCOMBE.—We will hand them up, Sir. The *Empress of Ireland* was a British steamship, built by the Fairfield Shipbuilding Company, of Glasgow, in the year 1906. Her length was 543.9 feet, her breadth 65.75 feet, and her depth 41.02 feet. She was rigged as a schooner, and registered at the Port of Liverpool, her official number being 123972, and her tonnage, after deducting 6,162.28 tons for propelling power and crew space, was 8,028.17 registered tons. She was owned by the Canadian Pacific Railway Company, Mr. Arthur Baker, of 62/5 Charing Cross, London, S.W., being the registered manager of the vessel.

A certified copy of the vessel's register, containing the above and other particulars, is produced and handed in. (Document filed and marked Exhibit 'A'). The vessel was built under special survey by the Board of Trade and Lloyds surveyors and evidence as to her class will be produced.

Mr. ASPINALL.—I am told that she was classed 100 a-1.

Mr. NEWCOMBE.—Thank you. Copies of the plans are here and will be produced and explained by Mr. Hillhouse, chief naval architect of Fairfields, the builders.

The vessel held a passengers' certificate granted by the Board of Trade, and dated 20th February, 1914, enabling her to carry 1,860 passengers in the foreign trade. The complement of her crew is given as 372 hands. A copy of the Passenger's Certificate, and the declaration of the surveyor upon which it was granted, are handed in. (Document filed and marked as Exhibit 'B').

I should observe that from the declaration of the surveyor, the vessel was fitted with 758 fixed berths for third-class passengers, but was only allowed to carry 714 third-class passengers. The explanation of this is that the vessel was required to carry boats for all. From the Passenger's Certificate it will be seen that she carried 40 boats, capable of accommodating 1,360 persons. With a crew of 372 hands, therefore, the vessel could only accommodate 1,488 passengers, instead of 1,532, for which number fixed berths were fitted. In addition to the 40 lifeboats above referred to the Passenger's Certificate and declaration show that the vessel carried 2,100 life jackets, viz: 1,950 life jackets for adults and 150 life jackets for children. She was also supplied with 18 life buoys, 9 life buoys being fitted with lights.

The Passenger's Certificate referred to, dated 14th February, 1914, remained in force, unless previously cancelled, until the 7th February, 1915. The surveyor who made the survey and signed the declaration was Mr. J. Dow, one of the Board of Trade engineers and ship surveyors. The vessel was also surveyed and passed by the Board of Trade surveyors as an Emigrant ship. On the 15th May last, the vessel was cleared as an Emigrant ship at Liverpool by the Board of Trade Emigration officer, and the reports of the survey then made will be found in the copy of the report of survey signed by the officers who made them, which I produce and put in. (Document filed and marked Exhibit 'C'). It appears that on this occasion 16 boats were swung out and the surveyor who saw this done testifies that he was satisfied that the ship was in all respects fit for the intended voyage and that the requirements of the Merchant Shipping Acts had been complied with. On leaving Liverpool on the 15th

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of May last, as an emigrant ship, the report of the survey shows that the vessel carried:

	Persons.
16 steel boats under davits accommodating	764
20 wood and canvas Engelhardt boats accommodating.	920
4 wood and canvas Berthon boats accommodating.	176
40 boats accommodation.	1,860

She carried 2,212 life belts, 150 childrens' life belts and 24 life buoys. The surveyor certifies that the ship was supplied with all the life-saving appliances.

I am able to produce a copy of the Canadian Pacific Railway Company's Regulations and Instructions in book form, issued by them to their masters and officers, and which were the instructions prevailing as between Captain Kendall and his Company upon the occasion of this voyage. There are a number of these Rules which it might be important——

LORD MERSEY.—What rules?

MR. NEWCOMBE.—The regulations issued by the company to their masters. Would your Lordship desire me to read any of these?

LORD MERSEY.—You might let us have three copies, one for each of us. I do not think it is material that you should read them.

MR. NEWCOMBE.—I might make a brief reference to indicate their general character.

LORD MERSEY.—Are you instructed to make any complaint at all as to the construction, condition or equipment of the *Empress of Ireland*?

MR. NEWCOMBE.—No, My Lord, I have no such instructions.

LORD MERSEY.—Then, if you are not going to make any complaint, I do not think it is necessary that you should deal with these matters in detail.

MR. NEWCOMBE.—Very well, My Lord. Then, that brings me to the question of witnesses.

LORD MERSEY.—It ought to bring you first to the question of the navigation of the two ships which led to the disaster.

MR. NEWCOMBE.—I propose to show that, by calling the navigating officer.

LORD MERSEY.—If you would rather, in opening up that part of your case, leave it to the witnesses to put the case before us you are quite right in doing so.

MR. NEWCOMBE.—The Tribunal will understand that counsel have come here from various quarters and that last evening, after the arrival of the train, was perhaps the first occasion upon which they had had an opportunity of exchanging views. There has been the utmost harmony between counsel and everybody has been anxious to give all information to assist in elucidating the facts. I have had handed to me since I came into Court, for the reason that it could not be prepared earlier because of the lack of typewriters, etc., a statement of the testimony which will be offered by the captain of the Norwegian boat and following that there will be other statements from that side very shortly. My learned friend, Mr. Meredith, was good enough to give me last evening a short statement of the position as it will be testified to by Captain Kendall and his officers, as I understand. This is rather a summary of the situation than a brief of the statement. Under these circumstances, subject to the direction of the Tribunal, I would call Captain Kendall.

LORD MERSEY.—I see by this Act of Parliament that the commissioners, before doing anything, are required to take and subscribe to an oath. Is that a provision that is in force? I am only asking you, Mr. Newcombe, as a representative of the Government and, if so, I want to know who is going to administer the oath. I am referring

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to the repealing section which, as I understand, is re-enacted in the later Act. It is section 786. Mr. Aspinall, do you know anything about this oath which we are supposed to take?

MR. ASPINALL.—My Lord, I know nothing about it. But, my Lord, might I be allowed to take this opportunity of expressing, on behalf of the directors of the Canadian Pacific Railway Company, our profound sympathy with the relatives of those unfortunate people who lost their lives on the occasion of this casualty? Having said that, I might add that I do not know whether it would be convenient for your Lordships to see the statement or summary of our case to which Mr. Newcombe has referred. We have drawn up this summary and last night we handed it to Mr. Newcombe, and it appears to me it would be probably of very great assistance to make use of it in following the evidence which is about to be given.

LORD MERSEY.—Yes, Mr. Aspinall, probably it would be of the greatest assistance, but first of all I want to get this question of the oath cleared up.

MR. ASPINALL.—Well, my Lord, my learned friend, Mr. Holden, who is associated with me in this case, thinks he can give your Lordships some information upon that point.

MR. HOLDEN.—My Lord, the section of our Canadian Shipping Act referring to this matter is Section 786, and reads as follows—this section was enacted in 1908, and as I said, reads as follows:

786. Every commissioner and assessor, before entering upon his duties, shall take and subscribe an oath well, faithfully and impartially to execute the duties assigned to him by this Part.

As we understand it, the Commission is acting under that Statute, and, therefore, affected by that section and by all other sections of the Act that may be applicable.

LORD MERSEY.—Now then, Mr. Holden, can you tell me something more—who is to administer the oath?

MR. HOLDEN.—I am sorry, my Lord, but I do not find anything in the Statute that covers that.

MR. NEWCOMBE.—I have sent out for the Interpretation Act, my Lord, I think there may be something in that which will guide us.

LORD MERSEY.—Do you understand that the administration of this oath is a condition precedent to our hearing the case, because if so let us take it at once.

MR. HOLDEN.—When I said, my Lord, that I did not find anything in the Statute as to who should administer the oath, I did not mean to say that under our Canadian law no one is qualified to administer the oath. I know that there are officials who are qualified, and I merely meant that the Shipping Act did not seem to make any provision for the administration of the oath.

LORD MERSEY.—Yes, but you said that the administration of this oath is a condition precedent to our undertaking this inquiry.

MR. HOLDEN.—Yes, my Lord, that is our understanding of the law.

LORD MERSEY.—Then we had better take the oath at once. It cannot do any harm anyway.

MR. NEWCOMBE.—I find here in Section 25 of the Interpretation Act of the Revised Statutes of Canada, 1906, the following:

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25. Whenever by any Act of Parliament or by a rule of the Senate or House of Commons or by an order, regulation, or commission made or issued by the Governor in Council, under any law authorizing him to require the taking of evidence under oath, evidence under oath is authorized or required to be taken, or an oath is authorized or directed to be made, taken, or administered, the oath may be administered and a certificate of its having been made, taken or administered may be given by anyone authorized by the Act, rule, order, regulation, or commission to take the evidence, or by a judge of any court, a notary public, a justice of the peace, or a commissioner for taking affidavits, having authority or jurisdiction within the place where the oath is administered.

Therefore, your Lordships may take the oath before any of the officers named in this Act.

LORD MERSEY.—Yes it would appear that any of the officers mentioned in this Act have authority to administer the oath. Are you a justice of the peace, Mr. Newcombe?

MR. NEWCOMBE.—No, your Lordship, I have not that honour.

LORD MERSEY.—Well, is there anyone here who is?

MR. NEWCOMBE.—Do I understand that your Lordship prefers to be sworn before a justice of the peace?

LORD MERSEY.—I do not in the least mind before whom I take the oath, but I do mind about this: it seems to be in order, and I wish to be sworn.

MR. NEWCOMBE.—I understand that Judge Langelier, who is a judge of the sessions, is present, and as such has the authority to administer the oath.

LORD MERSEY.—You say that by this statute he has the authority to administer the oath?

MR. NEWCOMBE.—Yes, my Lord.

LORD MERSEY.—Then let us be sworn.

(At this point Lord Mersey, Sir Adolphe Routhier, and Chief Justice McLeod took the statutory oath before Judge Langelier of the Court of the Sessions of the Peace.)

LORD MERSEY.—Now we take it, Mr. Newcombe, that you now put in the documents that have been produced before the oath was taken by the members of the Court?

MR. NEWCOMBE.—Yes, my Lord, with the permission of the Court the documents will be taken as having been filed subsequent to the taking of the oath.

LORD MERSEY.—Now, Mr. Newcombe, doesn't the Statute provide also that the assessors should be sworn?

MR. NEWCOMBE.—Yes, my Lord, it does.

LORD MERSEY.—Then let them be sworn.

(The assessors were duly sworn according to the statutory form of oath, before Judge Langelier.)

MR. ASPINALL.—My Lord, I have two further copies of that statement which I handed in, and I am having others made so that the Assessors will also be provided with them.

LORD MERSEY.—Do I understand that you had handed in copies for the Court?

MR. ASPINALL.—Yes, my Lord.

LORD MERSEY.—Well I must say that for myself I did not see it.

MR. ASPINALL.—I was wishful that your Lordship should have it. May I now hand in two more copies for the Assessors. My Lord, that document is a brief and I

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hope a succinct statement of the facts which we are going to present to the Court as being the material facts which led up to this collision.

LORD MERSEY.—Of course it is not evidence.

MR. ASPINAL.—No, my Lord, it is not evidence.

LORD MERSEY.—It is a statement of the theory you are about to put forward and the facts on which it is based?

MR. ASPINAL.—Yes, my Lord, I will read it to the Court. The statement is as follows:

Between one a.m. and two a.m. May twenty-ninth, 1914, the *Empress of Ireland*, a twin-screw steamship of 14,191 tons gross, and 8,023 tons net register, 562 feet in length, was in the River St. Lawrence, on the south side of the river, a few miles below Father Point.

She was in the course of a voyage from Quebec to Liverpool, carrying passengers, mails and general cargo and manned by a crew of 420 hands all told.

Having shortly before dropped her pilot, she was on the course of North 50 E. by compass, and was making about 17 knots an hour through the water. A good lookout was being kept on board of her, and her regulation lights were duly exhibited and burning brightly. Her master, first and third officers, were on the bridge.

In those circumstances those on board the *Empress of Ireland* sighted the masthead lights of a steamer, which proved to be the *Storstad*, on the starboard bow, and distant several miles.

Shortly afterwards, the course was altered to N. 76 E., on which course the *Empress of Ireland* was steadied, and she proceeded on, still having the masthead lights of the *Storstad* on her starboard bow.

A little later the green light of the *Storstad* was sighted on the starboard bow of the *Empress of Ireland*, and very shortly afterwards a fog bank was seen coming off the land, whereupon the engines of the *Empress of Ireland* were stopped and reversed full speed, and her whistle was blown three short blasts.

The fog shut out the lights of the *Storstad*. A prolonged blast of the *Storstad's* whistle was heard on the starboard bow of the *Empress of Ireland*. The whistle of the *Empress of Ireland* was again blown three short blasts. A long blast from the *Storstad* was again heard on the starboard bow of the *Empress of Ireland*. At about this time, the *Empress of Ireland* being stopped in the water, her engines were stopped and two long blasts were sounded on the whistle. Another long blast was heard from the *Storstad*, still on the starboard bow. The whistle of the *Empress of Ireland* was again sounded two long blasts.

Very soon afterwards the mashead light and the two side lights of the *Storstad* were seen close to, broad on the starboard bow of the *Empress of Ireland*, approaching at fast speed.

The master of the *Empress of Ireland*, by megaphone, hailed the *Storstad* to go full speed astern, and at about the same time the *Storstad* was heard to sound three short blasts.

In the hope of possibly avoiding or minimising the effect of the collision, the engines of the *Empress of Ireland* were ordered full speed ahead, and her helm was ordered to be put hard aport, but the *Storstad*, continuing to come on fast, struck the *Empress of Ireland* between the funnels, and penetrated through her steel decks to the extent of fifteen to twenty feet.

The engines of the *Empress of Ireland* were immediately stopped, and the *Storstad* was requested by megaphone to go full speed ahead, but the ships separated, and thereupon an attempt was made to go ahead with a view of beaching her, but the *Empress of Ireland*, which was listing heavily to starboard, continued to list, and shortly afterwards sank.

Now, my Lord, in view of the fact that we have prepared this document which I have just read—I am not making any complaint of unfair treatment, but at the

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same time it seems to me that it would only be fair that those who represent the *Storstad* should do the same thing as soon as they conveniently can.

MR. NEWCOMBE.—I am assured that they will.

MR. ASPINALL.—I am quite content with that assurance.

LORD MERSEY.—Mr. Duclos, how soon will you be in a position to furnish the court with a statement on behalf of the *Storstad*, setting forth their case?

MR. DUCLOS.—We can make an informal verbal statement at the present moment, but we had intended to go perhaps a little further and communicate to Mr. Newcombe a short statement of the evidence that we proposed to give by each individual witness whose testimony would be tendered. We have already put one or two of them in Mr. Newcombe's hands, and during the course of the morning we expect to have the rest.

LORD MERSEY.—That is not quite what I want. Have you read this statement put forward by the Canadian Pacific Railway Company on behalf of the *Empress of Ireland*, Mr. Duclos?

MR. DUCLOS.—No, my Lord.

LORD MERSEY.—Have you another copy, Mr. Aspinall?

MR. ASPINALL.—I am afraid I have exhausted all I have, my Lord.

LORD MERSEY.—Then you may have mine. Now, Mr. Duclos, will you be good enough to read it, and we will wait while you are reading it.

MR. DUCLOS (after a few moments).—I have read it now, my Lord.

LORD MERSEY.—Now, how soon can you furnish us with a similar statement on behalf of the *Storstad*?

MR. DUCLOS.—At the adjournment of the Court or on resuming this afternoon.

LORD MERSEY.—You mean to say we shall adjourn at one o'clock and we shall reassemble at two now do I understand that at two o'clock you will be in a position to give us a statement?

MR. HAIGHT.—Well, my Lord, it has taken the only stenographer we could get two hours this morning to type four pages, so I am afraid the difficulty will be one of stenographic assistance.

LORD MERSEY.—Oh, not a bit of it. There are only two and a half pages in this statement handed in by the Canadian Pacific Railway Company, and if there is any difficulty in getting it written I will write it out for you myself. You ought to be able to put your story down at once.

MR. NEWCOMBE.—If your Lordship will permit me for a moment, it occurs to me that the stenographers should be sworn on an occasion of this kind.

LORD MERSEY.—Oh, by all means.

(At this point Messrs. T. P. Owens, A. W. G. Macalister, and E. C. Young, were sworn as official reporters.)

MR. HAIGHT.—If your Lordship prefers we will have a written statement by two o'clock, but we may have to put it in in handwriting.

LORD MERSEY.—Well, we would rather have it at once.

MR. HAIGHT.—Then I will make it verbally.

LORD MERSEY.—Very well.

MR. HAIGHT.—The steamship *Storstad* was running on time charter for the Dominion Coal Company, and on the morning of the collision was on a voyage from Sydney to Montreal, with a cargo of 10,800 tons of coal. She was abreast of Metis Point

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at one-thirty a.m. Sydney time; our engine-room and deck-clock having been set at Sydney time, and not having been changed.

LORD MERSEY.—What is the difference between Sydney time and the time on board the *Empress*?

Mr. HAIGHT.—Well, Montreal and Sydney time differ by one hour.

LORD MERSEY.—In which way?

Mr. HAIGHT.—One-thirty by our clock was two-thirty by Montreal time. (This statement was afterwards corrected by Mr. Haight.) When abreast of Metis Point, and about four miles off the shore, we laid a course W. $\frac{1}{4}$ S. magnetic, and ran on our patent log six knots. That indicated only our distance run through the water. The tide had been at low water at about ten o'clock, and would have been at high water at about four in the morning. At this hour, the flood had run about two-thirds, and the officers of the *Storstad* estimate that with that tide the current of the river running out was approximately one knot an hour. There has, therefore, to be a slight allowance made by virtue of the current in connection with our readings of the patent log; but by the patent log we ran W. $\frac{1}{4}$ S. six knots. The course was then changed to W. $\frac{1}{2}$ S., and we ran by our patent log five knots. The lights at Cock Point and Father Point were visible when we had run that second course, and shortly after that the log was taken in as being no longer necessary.

After running the five knots W. $\frac{1}{2}$ S. our course was changed W. by S. Just before the change was made, or just after, the masthead lights of the *Empress of Ireland* were seen on our port bow, bearing in the neighbourhood of two or a little more than two points away. At that time, she was showing only her masthead lights.

LORD MERSEY.—At what distance was she?

Mr. HAIGHT. Probably six or seven knots away, and too far off for her coloured lights to show. About six or seven minutes after we had made out her masthead lights, we first saw a coloured light, and it was green. She ran showing her green light for a short interval, and then we saw a change in her course. Her range lights came together—they had before been somewhat open to start with—and she showed both the green and the red. She then continued to swing to starboard, shut out the green and showed the red light only. The witnesses are not exact, nor do they all agree precisely as to how long the red light of the *Empress* was showing before the fog shut her out. According to different stories, it was from two to four or five minutes that she continued showing her red light when the fog shut her out from their view, but when she was so shut out the red light was still showing.

After the fog had shut the *Empress* off, she blew us a signal of one whistle. The fog had not yet surrounded our boat, but we answered that signal, and when she was shut out our engines were ordered slow.

Mr. NEWCOMBE.—Was that a long or a short signal?

Mr. HAIGHT.—A long fog whistle was the first whistle blown by the *Empress*, and we blew a similar whistle. About two minutes after the fog shut her out and we slowed, the fog enveloped us, and we rang our engines to stop. The entries in our engine room log are 'three slow three-two, stop.' After our engines had been stopped there was a second exchange of long blasts between the two steamers.

LORD MERSEY.—Meaning?

Mr. HAIGHT.—One long blast—the running whistle in a fog.

Chief JUSTICE McLEOD.—There was an exchange of just one blast between the two ships?

Mr. HAIGHT. Yes, one blast. A little later, we heard a signal of three whistles blown by the *Empress of Ireland*. To that we again blew one long whistle.

LORD MERSEY.—Meaning what?

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MR. HAIGHT.—Simply that we were under way and blowing a long running whistle as required by the regulations.

LORD MERSEY.—Does that mean you are keeping your course?

MR. HAIGHT.—Yes, my Lord. The vessel was still heading west by south. A little later, the Chief Officer of the *Storstad*, in order to make sure of ample room, says that he ordered the wheel ported. His statement is that he had no idea of danger, that he had seen the boat go into the fog bearing red to red to him, but that his engines were stopped and he was slowing down, and didn't want to take any chances of his boat sheering one way or another, and if he was going to change at all he wanted to change to starboard. The wheel, when put to port, had no influence upon our course. It was then put hard-a-port. The third officer, who was also on watch and on the bridge, himself helped put the wheel over to be sure it should go all the way. Still the *Storstad* would not swing, and then, because we had found that our vessel had lost steerage-way, the third officer pulled the whistle-cord, blowing a signal of two long blasts as required by the regulations, to mean that our vessel was not under steerage way. About the same time he blew the two whistles, in order that his vessel might not become entirely unmanageable, he gave a signal on the telegraph 'slow ahead', and he whistled down the speaking-tube to the Captain. The Captain, when he turned in, had said 'if we run into any fog, call me,' and those were his regular instructions anyway.

The First Officer, when he called the Captain, said, 'it is getting foggy.' The Captain said, 'Can you see Father Point?' The Chief Officer replied, 'It has just been shut off.' No mention was made of any vessels in the vicinity. The mate's statement is that he did not think there was the slightest cause for danger or anxiety, and simply called the master because he had been told to call him if they encountered fog. The master went on the bridge, looked at the compass first, says he had no idea there was a vessel in the vicinity then, they were steering west by south, and an instant later saw a masthead light about three points or perhaps a little more on its port bow. He instantly ordered the engines full speed astern.

The distance between the vessels is estimated by the master—and it is a pure estimate—at perhaps 800 feet. Immediately after the masthead light showed, he saw the green light. Probably a minute, or perhaps somewhat over a minute, after the *Empress* was first seen the boats came together. The angle was something less than a right angle, the starboard side of the *Empress* making an angle with the starboard side of the *Storstad* of perhaps three points.

The master of the *Storstad* heard a hail from the *Empress* to keep going ahead or to go ahead full speed. He had no megaphone, and he called back, 'I am going ahead full speed,' and instantly ordered his engines full speed ahead at the moment the vessels came together. He states, however, that it was absolutely impossible for him to keep his stand in the wound, that from an angle of about three points his bow was swung to starboard until the vessels came almost parallel; that he was swung around so much he was afraid the starboard quarter of the *Empress* would hit his port bow, and then the *Empress* went off into the fog. He was swung so far to starboard that in order to bring his heading back towards the land he set his helm hard-a-port, ordered his engines ahead, and made a complete circle. He blew a number of signals to the *Empress* trying to get an answer to find where she was. He got no answer at all. It was perhaps eight or ten minutes after the collision before he got his first idea of her whereabouts, while he was manœuvring, and then he heard cries from the people who were in the water, a chorus of cries, not an individual cry—he was not quite close enough for that. He manœuvred his vessel as close to the vicinity of the *Empress* as he dared. His boats were all ready to drop and the moment he was in a position to do so all four boats were sent away. Our vessel rescued several hundred of the passengers. The members of the crew of the *Storstad* manned entirely one of the *Empress* boats after it came to the *Storstad* when she went back the second time, and partially manned another boat.

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I do not know that your Lordships are perhaps interested in further details as to what was done.

LORD MERSEY.—Personally, I do not think we are. We have the story of the navigation. Have you followed it, Mr. Aspinall.

Mr. ASPINALL.—Yes, my Lord, I have.

LORD MERSEY.—Very well, we are much obliged for your statement, Mr. Haight. Now, do I understand that it is proposed to call Captain Kendall?

Mr. HAIGHT.—If your Lordship will pardon me for a moment, I have a correction that I wish to make. One-thirty Montreal time is two-thirty Sydney time, just a transposition of the hours. It is the other way about. I must apologize for not being more familiar with Canadian time.

LORD MERSEY.—Then, Mr. Newcombe, if you are ready to proceed with the examination of Captain Kendall, he might be sworn.

Mr. ASPINALL.—My Lord, I should be delighted to assist Mr. Newcombe in the examination of Captain Kendall, as I am familiar with the evidence that the Captain will give.

Mr. NEWCOMBE.—I should be only too glad.

Mr. ASPINALL.—Subject, of course, to this, that after the cross-examination of Captain Kendall by Mr. Haight, on behalf of the *Storstad*, I should have an opportunity of re-examining Captain Kendall if it be necessary.

LORD MERSEY.—Certainly.

HENRY GEORGE KENDALL, Captain, ss. *Empress of Ireland*, sworn.

Now, Mr. Aspinall, it seems to me when we come to the navigation part of the case, I think we should have a chart.

Mr. ASPINALL.—Certainly, my Lord, I have three charts here; the one that I personally have been working upon, and which seems to be the most convenient, is an American chart. We have others, and if your Lordship should wish for them they are at your Lordship's disposal.

LORD MERSEY.—Please take care that all those documents are properly marked.

Mr. ASPINALL.—Yes, my Lord, I shall. My Lord, the chart I am now handing in to your Lordship we propose to mark as Chart 'A' to identify it.

LORD MERSEY.—Very well, now you may proceed with the examination of Captain Kendall.

By Mr. Aspinall:

1. Q. Captain Kendall, do you hold an extra master's certificate?—A. Yes.
2. Q. And have you held it for the last twelve years?—A. Yes.
3. Q. And on the occasion of this casualty were you the master of the *Empress of Ireland*?—A. I was.
4. Q. In addition to yourself, were there six other officers on the *Empress of Ireland*?—A. There were.
5. Q. Did four of them hold master's certificates?—A. Yes.
6. Q. And did two of them hold mate's certificates?—A. Yes.
7. Q. Have you been in the service of the Canadian Pacific Railway Company for the last eleven and a half years?—A. Yes.
8. Q. Did you start in their service as second officer?—A. I did.

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9. Q. And have you for the last six and a half years been in command of their ships?—A. I have.

10. Q. I think since this casualty your health has been somewhat affected, Captain Kendall?—A. It has.

11. Q. And if you should at any time wish to be allowed to sit down I have no doubt that my Lord will allow you—you will kindly tell us so, Captain Kendall, if you feel unwell?—A. Thank you.

12. Q. Now I want you to give me some general information with regard to the ship before we approach the details which led to the collision—she was a twin-screw boat, I believe?—A. She was.

13. Q. And in the event of your putting her full speed astern and not using her helm, did she keep her heading or cant in any way?—A. She kept her heading.

14. Q. That is the difference between a twin-screw boat and a single-screw boat?—A. It is.

15. Q. What speed did she make at full speed ahead?—A. 17 or 18 knots.

16. Q. Through the water?—A. Through the water.

17. Q. And at half speed?—A. About twelve knots.

18. Q. And slow?—A. About from eight to nine.

19. Q. And dead slow?—A. About five.

20. Q. In the event of your ship travelling at full speed and your stopping and putting your engines astern, in what space of time does she become stationary in the water?—A. In about two minutes.

21. Q. And what distance does she travel in the water?—A. About two lengths.

22. Q. Have you made any experiment or experiments with regard to that matter?—A. I have.

23. Q. When?—A. About the 8th of May.

24. Q. This year?—A. Yes.

25. Q. Where?—A. Off Point Lyness, on the Welsh coast, near Liverpool.

26. Q. Now we will come to another matter—what is the practice on board the *Empress* with regard to boat drill?—A. The practice is before leaving each port the crew are put through their boat drill.

27. Q. What is the practice with regard to water-tight door drill?—A. They are put through that in each port.

28. Q. Was that done on this occasion?—A. It was.

29. Q. Well now, Captain, having given this general information, we want to take the navigation of your ship down the river—my Lord, here is the chart which I wish your Lordship to see—before going down the river, it is better, I think, that I should ask you this, where did the collision happen?—A. About six and a half to six and three-quarters miles east of Father Point.

LORD MERSEY.—Now, Mr. Aspinall, would you kindly mark the point on this chart?

Mr. ASPINALL.—Shall I get the witness to do it?

LORD MERSEY.—If he understands it, but let the point be marked.

By Mr. Aspinall:

30. Q. You will want a pair of dividers will you not, Captain Kendall?—A. Yes, and parallel rules.

31. Q. This is the chart on which his Lordship wants the place of the collision to be marked—now Captain Kendall, now that you are asked to mark the place, I wish you would do it with as much precision as possible.

32. LORD MERSEY.—Captain Kendall, will you please mark it with an 'A'?—A. Yes, your Lordship. (After a few moments). I have now marked the place where the collision happened with the letter 'A'.

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By Mr. Aspinall:

33. Q. I am right, am I not, Captain Kendall, in saying that is a very small-scale chart?—A. It is rather.

34. Q. It is rather a small-scale chart and it is difficult, I dare say, to be able to do this with absolute precision?—A. With absolute precision, yes.

35. Q. And that is the place of the collision?—A. Yes.

36. Q. Now at what time do you say the collision took place?—A. About 1.55 a.m., on the 29th of May.

37. Q. Did you look at your watch or is that a guess?—A. Two minutes before the collision I looked at the chart-room clock.

38. Q. And according to ship's time—is that right, Captain Kendall?—A. According to Eastern standard time.

LORD MERSEY.—Let us be clear about what we are doing. Have we three times, Montreal time, ship's time, and the *Storstad* time?

MR. ASPINALL.—My Lord, we have. However, I think we can work it out.

39. Q. The 1.55 was what?—A. Eastern standard time.

40. Q. That is what?—A. Montreal time.

41. What was your ship's time?—A. I couldn't say. The Eastern standard time we use for our navigation purposes until clear of the land.

42. Q. By Eastern standard time you mean what?—A. Montreal time.

LORD MERSEY.—Well, let us call it that. 1.55, Montreal time, is the time at which the collision is supposed to have taken place?

MR. ASPINALL.—Yes.

LORD MERSEY.—Now, Mr. Duclos, according to your version what time was it when the collision took place, Montreal time?

MR. DUCLOS.—Six or seven minutes past two, Montreal time.

LORD MERSEY.—There is a difference between you of ten or twelve minutes?

MR. DUCLOS.—Six or seven minutes past two, Montreal time.

By Mr. Aspinall:

43. Q. Is that a picture of the *Empress of Ireland*? (Photograph of *Empress of Ireland* filed as Exhibit 'B.')

44. Q. Did you start from Quebec at 4.20 p.m. Montreal time?—A. About 4.20 p.m.

45. Q. Having got out in the river, did you proceed down?—A. We did.

46. Q. Did you meet with clear weather at first?—A. Clear weather.

47. Q. Did you proceed down at your full speed?—A. We did.

48. Q. Was your ship at that time in charge of a pilot?—A. She was.

49. Q. Were you on the bridge yourself, except possibly while getting a cup of tea, from the time the ship left Quebec until the collision occurred?—A. I was.

50. Q. As you proceeded down river, did you after a time meet with fog or haze?—A. We met with a slight fog.

51. Q. Where?—A. Between Red island and Bic.

52. Q. When you met that fog, were any orders given on board your ship?—A. We reduced speed.

53. Q. To what?—A. Half speed and slow.

54. Q. Was your fog whistle used?—A. It was.

55. Q. Having passed through that fog, did you then proceed on at your full speed?—A. We did.

56. Q. Did you later meet more fog?—A. Yes.

57. Q. Where?—A. Between Bic and Father Point.

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58. Q. When you met that fog did you make any alteration in speed?—A. Reduced to half speed and slow.

59. Q. Was your whistle sounded?—A. It was.

60. Q. Did you safely pass through the fog?—A. Yes.

61. Q. Having passed through that fog, did you proceed on?—A. We did.

62. Q. Where did you land your pilot?—A. At Father Point.

63. Q. For that purpose do you have to stand in somewhat to the southern shore?—A. Yes, we have.

64. Q. And did you do so on this occasion?—A. We did.

65. Q. Where was it that you landed your pilot?—A. About a mile north of Father Point gas buoy, on the steam tender *Eureka*.

66. Q. Now, having dropped your pilot, on what course did you put your ship?—A. North 50 east by compass.

67. Q. Is that the usual course?—A. Usual course.

68. Q. I notice that Mr. Haight stated the course of his vessel in magnetic; in order to avoid confusion perhaps you had better tell us what north 50 east by compass is magnetic?—A. North 47.

69. There are three degrees—A. Variation.

By Chief Justice McLeod:

Q. Your statement would be amended, then, by saying north 47.

Mr. ASPINALL.—Yes, my Lord.

By Mr. Aspinall:

70. Q. North 47 magnetic; I think you said 'variation.' You meant deviation, did you not?—A. Deviation.

71. Q. The variation is about two points, I think. Did you proceed on that course at full speed?—A. We did.

72. Q. Was the weather then fine and clear?—A. It was.

73. Q. From this time onwards, did you, having dropped your pilot, remain in charge of your vessel?—A. I did.

74. Q. I want you to tell me who was on the bridge of your vessel at this time. There was yourself; who else?—A. The first officer.

75. Q. What is his name?—A. Jones, and the third officer, Mr. Moore.

76. Q. Who else?—A. A quarter master at the wheel, a quarter master standing by and a messenger boy.

77. Q. A boy to carry messages, if they were wanted?—A. To the Marconi room and various places.

78. Q. Your vessel was fitted with the Marconi system?—A. Yes.

79. Q. I believe there were two operators?—A. Yes.

80. Q. How many of the six persons who were on the bridge were saved?—A. Three.

81. Q. There was yourself?—A.—the first officer and one quarter master.

82. Q. Was it the quarter master who was steering or the quarter master who was standing by?—A. Leaving Father Point it was the quarter master who was steering.

83. Q. Very well; these are the three who survived. Did they change before the accident?—A. Yes.

84. Q. When did they change?—A. By the wheel house clock, 2 o'clock.

85. Q. At four bells, we may call it?—A. At four bells the watch was changed.

86. Q. After you had been running on that course for some little time, did you see any gas buoy light?—A. I did.

87. Q. Where was that buoy?—A. Cock Point buoy.

88. Q. Was it reported?—A. It was.

89. Q. By whom?—A. The man in the lookout.

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90. Q. Where was the lookout being kept?—A. In the crow's nest.
91. Q. How was it reported?—A. One bell.
92. Q. Did you have in addition to the man in the crow's nest, anyone forward?
—A. On the stem head.
93. Q. The report came from the crow's nest?—A. From the crow's nest.
94. Did you look?—A. I did.
95. Q. And did you see it?—A. I did.
96. Q. At that time was the weather clear and fine?—A. Clear and fine.
97. Q. Now, what was the next report that you got?—A. One bell.
98. Q. That means something on the starboard bow?—A. Starboard bow.
99. Q. Did you look?—A. I did.
100. Q. What did you see?—A. A steamer's lights.
101. Q. Two lights?—A. Masthead lights.
102. Q. Did these two masthead lights prove to be the lights of the *Storstad*?—A. They did.
103. Q. Was the weather then clear?—A. Clear.
104. Q. How far did you judge those lights to be away?—A. About six miles.
105. Q. Of course, these distances are judgments?—A. Judgments, quite so.
106. Q. And how did those two lights bear from you at that time?—A. Between three and four points on my starboard bow.
107. Q. At that distance and at that bearing, was there then any risk of collision?
—A. No risk of collision.
108. Q. After that did you still stand on?—A. Until Cock Point buoy was on the beam.
109. You stood on until you got Cock Point buoy on your starboard beam, and then what did you do?—A. Altered my course.
110. Q. Under what helm?—A. Port helm.
111. Q. Is that the usual method of navigation?—A. It is.
112. Q. How much did you alter it?—A. I altered my course to north 73 magnetic.
113. Q. That would be north 76 by compass.—A. By compass.
114. Q. North 76 east?—A. North 76 east, north 73 magnetic.
115. Q. Is that the right course for a vessel under those conditions, outward bound?—A. It is.
116. Q. You altered, did you say, how many points?—A. I altered 26 degrees.
117. Q. That is a little over two points?—A. It is.
118. Q. There are $11\frac{1}{4}$ degrees in one point, are there not?—A. In one point.
119. Q. Having altered those two points, how did that bring the lights of the *Storstad*?—A. About a point on my starboard bow.
120. Q. Under those circumstances, how did you intend to pass the *Storstad*, if all had gone well?—A. On my starboard side.
121. Q. Was there at that time any risk of danger?—A. No risk of danger.
122. Q. After you had made this alteration did you do anything in order to verify your heading?—A. I did.
123. Q. What did you do?—A. Looked at the ship's heading by the standard compass, and took the bearing of the light at the same time.
124. Q. In order to look at your standard compass, what did you have to do?—A. Go on the upper bridge.
125. Q. You are standing in the first instance on your navigation bridge?—A. Yes.
126. Q. There is a ladder or something which leads up to the higher bridge?—A. Yes.
127. Q. And on that higher bridge is the standard compass?—A. Yes.
128. Q. Up to that you went?—A. Yes.
129. Q. You usually do that?—A. Always.

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130. Q. Having got there, what information did you gain?—A. That the *Storstad* lights were bearing North 87 East by compass.

131. Q. From you?—A. From me.

132. Q. And you were heading?—A. North 76.

133. Q. That put the other vessel how much on your starboard?—A. Eleven degrees on my starboard bow.

134. Q. That standard compass would, if you did what you say you did, give you accurate information with regard to this?—A. It did.

135. Q. So, according to you, you were starboard to starboard?—A. Yes.

136. Q. Did you at that time see the two masthead lights of the *Storstad* in such a position as to give you any information as to her heading?—A. They did.

137. Q. What did you see and what information did you get?—A. The masthead lights had opened with the main masthead lights to the northwest.

138. Q. She was carrying two masthead lights?—A. Yes.

139. Q. Which light is the higher?—A. The main masthead light.

140. Is that the aftermost light?—A. Yes.

141. Q. It is substantially higher than the forward light?—A. About 15 feet, not less.

142. Q. Will you tell us what you saw of those two lights and what information it gave you?—A. It gave me the information that *Storstad's* lights were open and that she would go clear.

143. Q. And that her lights were open—I think this is what you wish to convey; correct me if I am wrong—in such a way that her starboard side was open to you.—A. Absolutely.

144. Q. If the lights had been open the other way, which side of her would have been open to you?—A. Port side.

145. Q. You say that the lights were open in such way that it told you as a sailor that she was starboard to starboard?—A. It did.

146. Q. What age are you?—A. 39.

147. Q. You go up these steps to look at your standard compass, and you come down; how long does it take?—A. It is a matter of moments.

148. Q. Did you go back to the navigation bridge?—A. I did.

149. Q. And proceed on?—A. And proceed on.

150. Q. When you got back to your navigation bridge, what was the state of the weather then?—A. I noticed a fog bank well off from the land.

152. Q. From which land?—A. From the land on the south shore.

153. Q. In what direction was the fog bank travelling?—A. In a northwest direction.

154. Q. How was the fog bank spreading out?—A. It was spreading out very thin at the ends.

155. Q. In what direction was it running?—A. Running about northeast or southwest.

156. Q. Outside of the fog bank, are you and the *Storstad* coming up starboard to starboard?—A. Absolutely.

157. Q. Seeing this fog bank travelling out from the land towards your ship and towards the other ship, did you do anything?—A. I did.

158. Q. Did you wait for a time until it got farther out?—A. When I saw the *Storstad's* lights were getting a little misty, I stopped my ship.

159. Q. When the fog was dimming the *Storstad's* lights, had you by this time seen anything more than her two masthead lights?—A. Starboard lights.

160. Q. When did you see that light?—A. Shortly after I took the bearing of the masthead lights of the vessel herself.

161. Q. After you went to the navigation bridge?—A. Yes.

162. Q. You come down, you see the green light, and shortly after that you see the fog travelling out?—A. I do.

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163. Q. And the fog beginning to dim her lights?—A. Yes.

164. Q. Which light did it affect first, do you think?—A. I could not say.

165. Q. You do not know?—A. No.

166. Q. At any rate, in view of the fact that it was beginning to dim the lights which you were seeing, which were the two masthead lights and the green light, what did you do on board your vessel?—A. Stopped the ship, and went full speed astern.

167. Q. What was the reason of that?—A. To take the way off the ship.

168. Q. Do your company issue very stringent regulations with regard to great care in thick weather?—A. They do.

169. Q. I suppose you have a letter, have you not, sent you when you get command of a new vessel?—A. I do.

170. Q. In addition to that, you have a red book sent you?—A. Yes.

171. Q. It is not necessary to deal with these matters at the moment, but what you did was, in order to be certain of safety, stop and order full speed astern?—A. Yes.

LORD MERSEY.—You had better hand me a copy of the letter.

Mr. ASPINALL.—May I read it to your Lordship, and then hand it in?

LORD MERSEY.—You may read the letter now.

By Mr. Aspinall:

172. Q. This is a copy of the letter; the letter you which actually received went down with the ship, did it not?—A. Yes.

Mr. ASPINALL.—The copy of the letter is dated May 9, 1914. It is from the manager-in-chief of ocean services to Captain Kendall, and it is in these terms:—

DEAR SIR,—In handing over the command of this vessel to you, I desire to particularly call your attention to the importance of your command and to the value of the ship, and to emphasize to you the instructions of the company relative to the care of your vessel and the lives of your passengers.

It is to be distinctly understood that the safe navigation of the ship is to be in all instances your first consideration. You must run no risk, which by any possibility might result in accident; you must always bear in mind that the safety of the lives and property entrusted to your care is the ruling principle by which you must be governed in the navigation of your ship, and that no saving of time on the voyage is to be purchased at the risk of accident.

I cannot sufficiently emphasize my desire that these instructions shall be carried out to the letter.

It is expected that all the officers of your ship will bear this in mind, and will be specially cautioned by you, and, furthermore, that everyone on board will do their utmost to please and to gratify the company's patrons.

(Letter filed as Exhibit 'E').

By Mr. Aspinall:

173. Q. You say that in order to be certain of safely passing this vessel, you gave the orders you have told us: stop, full speed astern. Did you blow an appropriate signal whistle when you did that?—A. I did.

174. Q. What whistle did you give?—A. Three short blasts.

175. Q. At the time when you gave the three short blasts, were you still seeing to any extent the lights of the *Storstad*?—A. Yes, I was.

176. Q. But dim?—A. Dim.

177. Q. And did you continue to see them for a short time?—A. I did.

178. Q. What effect had the stopping and reversing of your engines; did it take your way off —A. It did.

179. Q. How did you ascertain whether your way was off or not?—A. By looking over the ship's side.

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180. Q. What information did you gather from that?—A. That my ship was stopped.

181. Q. I know, but how do you ascertain that your ship is stopped by looking over the side?—A. By the foam and the air bubbles on the water.

182. Q. Is it common practice for seamen to look over the side in fog to see whether or not their ship is stopped?—A. It is.

183. Before you looked over the side, had you blown another set of three blasts?—A. I did, before the way was off the ship.

184. Q. And then you looked and ascertained that you had stopped?—A. Yes.

185. Q. At the time that you ascertained that you were stopped, had you then lost the lights from the *Storstad*?—A. I had.

186. Q. Shortly before that?—A. Yes, before I blew the second three blasts.

187. Q. Between the first set and the second set you lost the lights of the *Storstad*?—A. of the *Storstad*.

188. Q. When you last saw the lights of the *Storstad*, what lights of her were you seeing?—A. Three lights, two masthead lights and the green side light.

189. Q. That is what you last saw of the *Storstad*; where were they bearing from you?—A. About a point on my starboard bow.

190. Q. So that when you last saw the *Storstad*, she was away on your starboard bow, green to green?—A. Yes.

191. Q. And did you expect that notwithstanding the fog you would safely pass one another, green to green?—A. I did.

192. Q. And if you kept your heading, what would be the only thing that would bring her into contact with you?—A. By him porting his helm.

193. Q. That is the only thing that would bring it about if you kept your course?—A. Yes.

194. Q. When you ascertained that your ship was stopped, did you keep reversing your engines or not?—A. No.

195. Q. What did you do with your engines?—A. Rang the telegraph to stop.

196. Q. You brought your ship to a standstill?—A. I did.

197. Q. How were you heading when you were stopped in the water?—A. North 75 East by compass.

198. Q. How did you ascertain that?—A. By the standard compass.

199. Q. Did you again go up?—A. I did.

200. Q. For the purpose? Is there any doubt about that, Captain?—A. No doubt.

201. Q. Were you wishful to keep your ship upon her heading?—A. I was.

202. Q. Is it desirable in a fog?—A. Absolutely desirable.

203. Q. Is it desirable in a fog for you to keep your heading and not use your helm?—A. Knowing that there are other vessels in the vicinity.

204. Q. Had you that idea in your mind when you did what you did do?—A. I had.

205. Q. Now, you have told me that you had blown three blasts twice. Had you heard any fog whistle from the other ship during the period of time between your first three blasts and your second three blasts?—A. Yes.

206. Q. What did you hear?—A. A prolonged blast.

207. Q. Where did the sound come from?—A. About two points on my starboard bow.

208. Q. That blast you heard between the two sets of three? After you had blown your second three, did you hear any more fog signals from the *Storstad*?—A. Yes.

209. Q. What?—A. A prolonged blast.

210. Q. That is a fog signal telling you that she is under way?—A. Ship under way.

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211. Q. Where did you hear that second fog signal?—A. About four points on my starboard bow.

212. Q. In view of the fact that she had been about one point and had brought about to four, did that mean a safe passing of the ships?—A. It did; it meant a safe passing.

213. Q. If the bearing keeps the same it means collision?—A. Danger of collision.

214. Q. If the bearing keeps the same it means risk of collision? The broadening would indicate safety?—A. Safety.

215. Q. You still think that unless she used the port helm, you would pass safely starboard to starboard?—A. I do.

217. Q. That was the second blast of the fog whistle that you heard from her, was it?—A. Yes.

218. Q. According to your evidence, you ascertained that you had stopped your way in the water?—A. I did.

219. Q. After that you blew the appropriate blast?—A. I did.

220. Q. What is the appropriate blast?—A. Two prolonged blasts.

221. Q. And you blew them?—A. I blew them to let the other ship know I had stopped.

222. Q. After you had blown your two last blasts, did you hear from her?—A. One prolonged blast.

223. Q. Did you again sound your two long blasts?—A. Shortly after I gave two long blasts.

224. Q. That is the second two long blasts?—A. Yes.

225. Q. Did you hear any blow from her after that?—A. No.

226. Q. How many whistles did you hear from her in all?—A. Three.

227. Q. You told us that one of them was four points; that was the second one?—A. That was the second one.

228. Q. How did the third one bear from you?—A. About six points on my starboard.

229. Q. Still broadening?—A. Still broadening.

230. Q. What was the next thing that happened; what did you see or hear?—A. After blowing the second two blasts I happened to look out in the direction which the sound came from, waiting for a reply to my second two prolonged blasts, and while looking out on my starboard side I sighted his forward masthead light and his green and red side lights.

231. Q. How far away was he from you?—A. By the condition of the weather, I should say about 100 feet.

232. Q. Was it very thick at this time?—A. Not very thick, no; I could not call it very thick; it was 100 feet.

233. Q. How was he bearing from you?—A. At right angles to my course.

234. Q. Was he travelling fast or slow?—A. Fast.

235. Q. How did you inform yourself that he was travelling fast?—A. By the foam at the bow of his ship.

236. Q. In view of the fact that he was showing you his red light at this time, what must he have done on your starboard?—A. Put his helm hard-a-port.

LORD MERSEY.—I do not understand what the *Storstad* would be doing putting her helm hard-a-port. I should like you to suggest, if you can, why she should have done that; they do not do these things without some sort of reason.

MR. ASPINALL.—My answer to Your Lordship's question is this: First of all, the statement which Mr. Haight has to-day made is that the helm was put-to-port and put hard-to-port, but it was said that the ship did not answer. As to why she put her helm hard-to-port, it is suggested that it was due to this: that these two ships were approaching each other in fog; that there was risk of collision, and that the third officer, who was in charge of the *Storstad* thought, and unfortunately, improperly

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thought, that by bending his helm he would avoid and give more room to the *Empress*. I think I do Mr. Haight no injustice when I say that it seems to me that that is in accord with the statement made by Mr. Haight.

CHIEF JUSTICE MCLEOD.—He must have expected to cross the *Empress*?

Mr. ASPINALL.—If they were starboard to starboard, that would be so; of course, your Lordships know it is difficult in a fog to be certain that the sounds which are heard give certain information as to the bearing of approaching objects. We have now the fact that the helm was put-a-port and was put hard-a-port in the hope of passing, coupled, of course, as Mr. Haight said, with this, that the helm was not acting; was not effective. Of course that story I shall later ask your Lordships to reject. This gentleman, Captain Kendall, says that she was in fact doing that which was consistent only with the helm having been put-a-port. I do not know whether or not that answers your Lordship's question.

Mr. NEWCOMBE.—These witnesses should be all out of Court, My Lord, except the officers.

LORD MERSEY.—If you wish them to be out of Court, by all means; but is there any particular reason why they should be out of Court?

Mr. NEWCOMBE.—It is usual.

LORD MERSEY.—I am told, Mr. Newcombe, that it is not usual at a wreck enquiry.

Mr. NEWCOMBE.—It is the practice in Admiralty; it is the practice in these enquiries before the Wreck Commissioner.

LORD MERSEY.—What is your experience, Mr. Aspinall?

Mr. ASPINALL.—My experience in England is that the witnesses are not kept out of Court in wreck enquiries, and may I add this: that so far as the officers of the two ships are concerned, they are made parties. With regard to the others, I do not know what the practice is in Canada, but I have no objection to their being here. We have now much committed ourselves to our story; speaking for myself it seems to me to be immaterial whether they are in or out of Court.

CHIEF JUSTICE MCLEOD.—Occasionally witnesses are asked to retire, but it is not the rule.

Mr. ASPINALL.—I do not know what Mr. Haight's view is; I should think that they would have liked to be in Court; I do not suppose it would do any harm if they were not here.

LORD MERSEY.—I think we had better leave it as it is at present.

By Mr. Aspinall:

237. Q. Seeing the ship in the position in which she was, did you think there was bound to be a collision?—A. I did.

238. Q. Did you give any order on board your ship?—A. I shouted through the megaphone to the vessel approaching me to go full speed astern several times.

239. Q. Did you do anything else?—A. I jumped to my telegraph and threw my engines full speed ahead, at the same time giving the order hard-a-port.

240. Q. What was your object in giving these orders?—A. To avoid a collision if possible.

241. Q. What was your hope, assuming these two orders could have been carried out. If there was time and opportunity how did you hope the collision might be avoided?—A. By going ahead as well as turning.

242. Q. Here is the other ship pointing more or less at right angles to your course; you give an order full speed and helm her a-port in the hope of taking you forward and turning, throwing your quarter away?—A. Yes.

243. Q. That is what was in your mind?—A. What was in my mind, yes.

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By Lord Mersey:

244. Q. Bringing them starboard to starboard?—A. Starboard to starboard, My Lord.

By Mr. Aspinall:

245. Q. And possibly minimising the effects of the blow?—A. Yes.

246. Q. Do you know whether there was time and opportunity to carry out these orders?—A. That is a chance I took.

247. Q. Between giving orders and the collision was how long, was it seconds?—A. A matter of seconds.

248. Q. And did she strike you?—A. She did.

249. Q. Did she blow any whistle at about the time you saw her?—A. She did.

250. Q. What?—A. Three short blasts.

251. Q. Was that about the time you saw her?—A. Well, I should say about three or four seconds after I saw her.

252. Q. The whole thing was a matter of seconds. Of course time is difficult to be certain about. How long do you think it was before the collision happened that she had blown her first three short blasts?—A. About five to seven seconds.

253. Q. Did she get all her three short blasts out by the time she struck you?—A. No.

254. Q. Tell me about that?—A. The third blast was blown almost at the time she struck me.

255. Q. What part of her struck your vessel?—A. The stem.

256. Q. What part of your ship was struck?—A. The part in the line between the two funnels.

257. Q. What do you judge the angle of the blow to have been between the two ships at the time they struck?—A. About seven points.

258. Q. That is your view?—A. That is my view.

259. Q. Knowing what you do now, where do you think she struck you with regard to the bulkhead that divides the room into two compartments?—A. I think she struck on the bulkhead.

By Lord Mersey:

260. Q. Do you think that she struck just where the bulkhead was?—A. Yes, my Lord.

261. Q. And if the effect was to destroy or to damage that bulkhead it would make the two compartments one compartment?—A. It would.

By Mr. Aspinall:

262. Q. As she was struck, or almost immediately after she was struck, did you give any orders to your officers?—A. Before she struck?

263. Q. Just.—A. Before she struck, seeing a collision was inevitable, I sent the first officer from the bridge to get the boats ready.

264. Q. That is Mr. Jones?—A. Mr. Jones.

265. Q. What did you say to him, do you remember?—A. Get away, get all hands and get the boats ready.

266. Q. Did he leave the bridge for that purpose?—A. At once.

MR. ASPINALL.—I do not know whether it will be convenient now, My Lords; I was travelling a course from the collision to the efforts made to save lives. I do not know whether your Lordships are wishful that course should be pursued.

LORD MERSEY.—I think so.

By Mr. Aspinall:

267. Q. Having sent away Mr. Jones, what did you next do?—A. I gave orders to the *Storstad* when the collision occurred to keep full speed ahead.

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268. Q. When you say you gave orders, what in effect did you say?—A. I shouted, 'Keep full speed ahead.'

269. Q. How did you shout it?—A. Through the megaphone.

270. Q. What in fact happened; did he keep ahead in the wound or not, or did the vessels separate?—A. The vessels separated.

271. Q. What did you say was the cause of the two vessels separating?—A. By her engines being full speed astern.

272. Q. You heard her give three short blasts just at the time she was striking?—A. Yes.

273. Q. Your view is she came out of the hole because the engines were reversing?—A. Yes.

274. Q. The moment she came out of the hole that withdrew the cork from the bottle, so to speak?—A. It did.

275. Q. What was the result to your ship?—A. Keeled over immediately.

276. Q. To which way?—A. Starboard.

277. Q. You have told me that in the hope of avoiding a collision or minimising its consequences you gave the order to go full speed ahead?—A. Yes.

278. Q. Just as she withdrew did you give any further orders?—A. Stopped the engines immediately when she struck.

279. Q. Now, she is withdrawn, and your vessel has listed to starboard; what was the next order you gave?—A. Blew the siren.

280. Q. For what purpose was this done?—A. I may correct myself if you want the orders given in rotation; I will give them as well as I can.

281. Q. Do your best.—A. The next order I gave was to stop the engines and to close the bulkhead doors of the watertight compartments.

282. Q. You closed the bulkhead doors; how did you give that order?—A. By telegraph to the engine room.

283. Q. You are on the bridge and you have telegraphed that communication to the engine room?—A. Yes.

284. Q. It is a telephone, is it?—A. Telephone and telegraph, telephone first.

By Lord Mersey:

285. Q. This was after, as I understand, the side of the ship was open to the water?—A. Yes.

By Mr. Aspinall:

286. Q. Close the watertight doors?—A. Yes.

287. Q. What next did you do as far as you remember?—A. Went to the 'phone and gave it verbally to the engineer on watch. I also went to 'phone to the engine room and shouted down to the engineer on watch: Close the doors, and the answer was: We are already doing it.

288. Q. Are these watertight doors which are down in the engine room space operated down there?—A. Operated down there, yes, from the platforms above; not in the spaces but in the platforms above.

289. Q. From the platform above. Are the other water-tight doors which are in the other part of the ship operated by the stewards?—A. Yes.

290. Q. They will tell us about that with more precision later. That is the way in which the matter is dealt with; the lower order of doors operated by the engine room staff, the higher ones operated by the stewards' staff. Now, what next did you do, as far as you can remember—of course, it was a moment of excitement?—A. I ran along the boat deck myself and threw the gripes off several of the boats on the starboard side; the gripes that hold the lifeboats in their places.

291. Q. Did you at or about this time make an effort to get her headed towards the shore?—A. A few minutes after the collision, when I found the ship heeling considerably, I put the engines full speed ahead, and spoke to the engineer on watch and

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said: Give her all you can; I am going to try and beach her. The answer came back: The steam is gone.

292. Q. Did you at the time or at about the time you gave this order, notice how your ship was headed?—A. I did.

293. Q. How was she heading?—A. Before she foundered she was heading south-east by the steering compass.

294. Q. And that heading had fallen away subsequently to starboard?—A. Yes.

295. Q. What do you think caused her to fall away?—A. The tendency would be to throw the bow towards the land.

296. Q. Why?—A. Because the position where she struck would really be abaft the middle line of the ship.

297. Q. She struck you abaft amidships; as a consequence she swung and your idea is that the blow was of such strength as to drive your quarter port and your head to starboard?—A. Quite so.

298. Q. Which takes it away to southward and eastward?—A. Yes.

LORD MERSEY.—Is that consistent with the description of the position of the place on the starboard side of the vessel?

Mr. ASPINALL.—He tells us that the blow was struck abaft the middle line of the ship. (To witness:) How much abaft, do you think?—A. That I could not say.

299. Q. You do not know?—A. No, but by the way she turned, I should say she was struck—

LORD MERSEY.—The more abaft, the more the blow would tend to carry the head of the *Empress* to starboard.

Mr. ASPINALL.—Yes. That in fact was what happened, and you think it was due to the blow.

The WITNESS.—I do.

By Mr. Aspinall:

300. Q. I suppose—if I may make the suggestion—that after your ship had become ungovernable by reason of her list, it is difficult to say how her head might go, isn't it?—A. About southeast: it was a matter of about a minute or two before she turned. It was difficult to get to the compass to see how her head was.

301. Q. You do say that she was heading southeast?—A. I know she was in a good position then, if we could get the steam to beach her; the way the ship was heading at that time, going on that course, she would have brought on the beach in a short time.

302. Q. How long after the two ships struck was it you found her heading south-east?—A. About five or ten minutes.

303. Q. Now, you commenced to tell us about blowing the siren; then you said your memory was not accurate as to the order in which these things were being done, and you went to something else. Now tell us when, if you can, the siren was blown and for what purpose?—A. It was blown immediately after the collision.

304. Q. For what purpose?—A. Prepare to abandon the ship.

305. Q. Is that a recognized signal on board your ship?—A. It is.

306. Q. On these big passenger ships do you use sometimes the siren and sometimes the steam whistle for giving that class of order to the crew of the vessel?—A. Only the siren on the *Empress of Ireland*.

307. Q. But on other ships is it the usual practice either siren or whistle?—A. Very few ships have sirens; we had them both.

308. Q. At any rate, you blew the siren for that purpose?—A. Yes.

309. Q. Was it known on board your ship what that means?—A. It is posted up in the crew's quarters around the ship.

310. Q. Prepare to abandon the ship?—A. Yes, close the water-tight doors and prepare to abandon the ship.

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311. Q. You have told me of your casting off the gripes of the boats. What next did you do?—A. Went back to the bridge.

312. Q. And having got there, what next happened?—A. Sent for the Chief Officer. Previous to this, at least he came to me at that particular time and I said: Send S.O.S. signal out to Father Point. His answer was: We have already done so. The next was I gave orders to get all boats out as soon as possible.

313. Q. And you say yourself with the men were working at the boats?—A. Yes.

By Lord Mersey:

314. Q. Would it be possible to get the boats out on the port side?—A. Impossible, my Lord.

By Mr. Aspinall:

315. Q. So far as you could see Captain Kendall, were your men doing good work?—A. They were.

316. Q. And doing it in a fairly calm and collected way?—A. They were.

317. Q. And obeying orders which you gave?—A. They were.

318. Q. What next happened? Did you yourself see any boats get out? I do not want you to give us details, because we will have more accurate information from those who, in fact, did it.—A. I saw three boats land in the water on the starboard side.

319. Q. They were released from the tackles?—A. Yes.

320. Q. Was the idea to get the boats in the water so as to pick up any people who might be in the water from the ship, which was apparently turning over; was that the idea?—A. That was the idea.

321. Q. Did you see any passengers on the boat deck yourself, before the boats went away?—A. My deck was swarmed with passengers.

322. Q. When you speak of people swarming on the deck do you mean the boat deck?—A. On the boat deck.

323. Q. And what next happened the ship?

By Lord Mersey:

324. Q. I think you said there were three boats?—A. About three.

325. Q. Not more?—A. From where I was standing on the bridge, that is all I could see.

326. Q. You were on the port side?—A. I was on the port side of the flying bridge, my Lord.

Mr. ASPINALL.—Your Lordship will be informed later on that there were three boats successfully launched.

The WITNESS.—From the position I was in, I could not say.

By Mr. Aspinall:

327. Q. I want you to tell us what you know; you are quite right in telling us only what you know. What next happened to the ship?—A. When the flying bridge took the water—

By Lord Mersey:

328. Q. That is where you were standing?—A. Yes, my Lord. It gave a sudden jerk and fell, both funnels striking the water at the one time.

By Mr. Aspinall:

329. Q. What happened to you?—A. The ship disappeared and I was thrown.

329½. Q. Into the water?—A. Yes. When I came up to the surface I saw a long line which apparently was the line of the ship, the suction caused by the ship foundering; two waves meeting.

330. Q. What happened to you?—A. I grabbed hold of a piece of grating which came up underneath. The next thing I remember was a man from a lifeboat, appar-

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ently it was No. 3, shouting out: There is the Captain, let us save him. I was then dragged into the boat by several of the men in the boat, who were passengers and crew. I then took charge of the boat and started to pick up others who were hanging on to wreckage, as many as we could possibly get hold of. We filled the boat and after filling the boat with as many as it would hold, which was about 55 or 60, I then placed the remainder around the boat hanging on to the lifelines.

331. Q. Have you got lines fixed round the boats so that you can hold on if need be?—A. Yes.

332. Q. Did you save many in that manner?—A. Yes, we did and told those who were in the boats not to let go of the men who were in the water, but to hold on to them in case they should lose them through exhaustion.

333. Q. What did you do with that load?—A. I then proceeded towards the steamer that I saw at a distance.

334. Q. Which steamer was that?—A. The *Storstad*.

335. Q. Having got to her what did you do?—A. On my way to her I passed two of the *Storstad's* lifeboats. In one boat was one of my passengers, lying all over one of the thwarts. Two men, the crew of the boat, were leaning over the bow pulling in another one. On my starboard side was another lifeboat belonging to the *Storstad*, and he had three passengers thrown across the thwarts and he was then pulling in another person. When I got alongside the *Storstad*, there were several boats alongside of the boats belonging to my ship. Amongst them was also one of the *Storstad's* boats, and he had, I think, been discharging some people he had saved.

336. Q. The people on your boat were then put on the *Storstad*?—A. They were.

337. Q. What did you do; did you go on the *Storstad* or did you make further efforts to save lives?—A. I asked members of the crew in the boats how many would stay with me and go back and search for more.

338. Q. These were your own crew?—A. My own crew. Ten men put up their hands and said: We all will. I said I did not require ten, I only required six. So it was decided that six should remain with me.

339. Q. Did you go back with the six?—A. I then threw all the sails and such gear out of the boat over the side and then proceeded back to the wreckage to take up or look for more bodies; to look for people who were alive.

340. Q. Did you pick up more on this occasion?—A. No, I did not find any; everybody I came to on the water was dead. I felt myself to see if there was any life in them but they were all floating with the buoys around their waists.

341. Q. When you speak of buoys you mean lifebelts?—A. Lifebelts.

342. Q. They had their lifebelts on, but they were dead?—A. Yes.

343. Q. Did you get anybody on that occasion?—A. No.

344. Q. What did you do then?—A. I saw a boat about two miles out to sea, one of my own boats, and then pulled out to this boat, thinking there might be some one in it but when I got to it I found that it was smashed and half filled with water; no one in it.

345. Q. After that?—A. I returned to the *Storstad*.

346. Q. Having come to the *Storstad* what did you do?—A. I returned to the *Lady Evelyn*, which had been going amongst the wreckage trying to pick up bodies.

347. Q. What class of vessel is she?—A. The mail tender at Rimouski.

348. Q. The property of whom?—A. The property of the Canadian Government.

349. Q. What did you do when you got to her?—A. I made enquiries; asked them if they had anyone on board and they said 'no' but they were going to steam around and pick up the bodies.

350. Q. Then what did you do?—A. Returned to the *Storstad*.

351. Q. After you got there what did you do?—A. I then discharged the crew of the boat and when they had boarded the *Storstad* I went on board myself. I went on the bridge of the *Storstad* to see the Captain. Is it necessary that I should tell this?

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LORD MERSEY.—You have arrived pretty nearly at the end of the story.

MR. ASPINALL.—I do not know whether it is wishful to tell us, but there was some controversy between Captain Kendall and the Master of the *Storstad* on the bridge; there always is in those cases.

THE WITNESS.—I wish to tell it.

LORD MERSEY.—You may wish to tell it, but we must consider whether it is relevant or not. What do you say, Mr. Duclos?

MR. DUCLOS.—I have no objection.

LORD MERSEY.—Would you prefer that he should give it?

MR. DUCLOS.—I would prefer.

LORD MERSEY.—I think you had better ask the witness to state it.

THE WITNESS.—I then went on the bridge of the *Storstad*. I said: 'Are you the captain of this ship?' He said: 'Yes.' I said: 'You have sunk my ship.' I said: 'You were going full speed, and in that dense fog.' He said: 'I was not going full speed, you were going full speed.' With that the pilot of the *Storstad*, who had just boarded, came to me and said: 'Do not say anything; you had better go below.' With that I went off the bridge and went into his chart room. It was then I collapsed.

352. Q. You know no more?—A. I know no more.

At one o'clock the Commission took recess.

The Commission resumed at 2.15 p.m.

MR. NEWCOMBE.—In mentioning the appearances this morning, I unfortunately omitted to inform the tribunal that Mr. Vaux, of the Board of Trade, has come out under instructions of the Board of Trade to assist in the preparation and submission of the case.

LORD MERSEY.—I understand that.

Captain KENDALL (resuming his evidence):

MR. ASPINALL.—There is a matter in which I desire to ask your Lordship's ruling. Certain statements have appeared in a newspaper reflecting upon the conduct of Captain Kendall, and he is very anxious to have this opportunity in public court of refuting the accuracy of those statements.

LORD MERSEY.—I do not like paying any attention to newspaper animadversions; they are better left alone.

Captain KENDALL.—Thank you, my Lord.

MR. ASPINALL.—Captain Kendall very naturally feels very sore over the matter, but I leave it at that.

MR. HAIGHT.—May I see the chart that Captain Kendall marked this morning?

By Mr. Haight:

353. Q. Captain Kendall, will you please tell me whose watch it was as you approached Father Point—was it the chief officers?—A. (Captain Kendall) The first officer's, Mr. Jones's.

354. Q. Who was regularly stationed on the bridge with the first officer during the watch?—A. Officer——?

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355. Q. He was not there alone?—A. No—do you mean another officer?

356. Q. Anybody.—A. The third officer.

357. Q. Which third officer?—A. Mr. Moore.

358. Q. Whose watch was it in the engine room?—A. I cannot say.

359. Q. You do not know whether it was the first assistant or the second?—A. No, I do not.

360. Q. When had the watch been changed before you reached Father Point?—A. Midnight.

361. Q. And the chief officer was on the bridge from when to when?—A. From 2 to 4 o'clock.

362. Q. Have you any list which will show how many men on the deck and in the engine room who were actually on duty have been saved?—A. I have no list.

363. Q. Will your engine room log or anything else show which men were actually on duty?—A. I do not think any documents were saved—none whatever—except my scrap log.

364. Q. Were the engineers who were on this watch saved?—A. They were.

365. Q. What course were you steering as you approached Father Point?—A. South 87 East by compass.

366. Q. How long did you run on that course?—A. That was South 84 magnetic.

367. Q. That will be East magnetic. How long had you been making a magnetic course due East while approaching Father Point?—A. Since Bic Island was on the beam.

368. Q. How many knots would that be?—A. The distance is about 19 miles.

369. Q. How close did the *Empress of Ireland* run to the pilot boat?—A. The pilot boat comes alongside the ship.

370. Q. How close did you run to the light at Father Point?—A. About one mile off Father Point gas buoy.

371. Q. How far is the gas buoy off shore?—A. About two cables; I cannot give the exact distance.

372. Q. Of course, you were only a little over a mile out from the shore when you dropped your pilot?—A. From the end of the wharf a mile and a half.

373. Q. How long were you stationary off Father Point while you were dropping your pilot?—A. I should think about five or ten minutes.

374. Q. Will you be good enough to make a diagram showing the relative positions of the two steamers when they actually touched in contact? (Captain Kendall drew diagram on paper.) Will you also say which boat is the larger?—A. The largest is the *Empress*. You gave me two models one small and one big and I took it that the largest one would represent the *Empress*. (Diagram marked Exhibit No. 1.)

375. Q. As I understand you, Captain, at the moment of contact your heading was North 73 East magnetic?—A. North 75 compass, 3 degrees westerly deviation North 72.

376. Q. And immediately before the vessels came together you heard the whistle blown by the *Storstad* first two points, then four points, then six points on your starboard bow?—A. Yes.

377. Q. How close did the whistle of the *Storstad* sound to you when you heard her whistle two points off on your starboard bow?—A. At a safe distance.

378. Q. Could you form any estimate?—A. Yes, by the dimness of the sound.

379. Q. Was it a mile?—A. It might have been a mile or half a mile—that I cannot say—according to the mechanism of his whistle. I do not know whether he has a powerful or a weak one. Different vessels have different whistles.

By Lord Mersey:

380. Q. Can you rely upon the whistle as being an indication as to where a ship is or as to how far away she is?—A. The direction but not the distance.

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381. Q. You can rely on the whistle for the direction?—A. I thought that without wind, like it was that particular night, it was quite safe.

By Sir Adolphe Routhier:

382. Q. In a fog?—A. Yes.

382½. Q. You are sure as to the direction?—A. Yes.

By Mr. Haight:

383. Q. How close did the whistle sound when you heard it six points on your starboard bow? Did you think that it might be about a mile or so away?—A. I should think that he would be passing a mile away.

383½. Q. You thought the *Storstad* was a mile away?—A. A safe distance.

384. Q. Your course away from Father Point was North 47 East magnetic?—A. Yes.

385. Q. When you first saw the masthead lights of the *Storstad* how did they bear on your vessel approximately?—A. Between three and four points.

386. Q. On your starboard bow?—A. On my starboard bow.

387. Q. How far had you got away from Father Point when you saw his mast-head lights?—A. Just before getting Cock Point on the beam.

388. Q. How long before that do you think you started your engines full speed ahead from Father Point?—A. About three miles.

389. Q. You were heading North 47 East magnetic?—A. Yes.

390. Q. You had him on your starboard hand and you were the burdened vessel?—A. I had him on my starboard hand. Will you repeat that?

391. Q. At that time you were showing your starboard light to his port?—A. I was.

392. Q. So that under the rules you were required to keep out of his way and he was required to keep to his course and speed?

LORD MERSEY.—Read the rule.

Mr. ASPINALL.—It is to be remembered that Capt. Kendall states in his evidence that he had not seen the starboard light of the *Storstad*; he had seen the first two mast-head lights but not the side lights.

LORD MERSEY.—Will you read the rules?

Mr. HAIGHT.—Rule 19 is as follows:—

“When two steam vessels are crossing, so as to involve risk of collision, the vessel which has the other on her starboard side shall keep out of the way of the other.”

Rule 22:—

“Every vessel which is directed by these rules to keep out of the way of another vessel shall, if the circumstances of the case admit, avoid crossing ahead, of the other.”

LORD MERSEY.—It is the first of these two rules that you refer to ?

Mr. HAIGHT.—Yes, and I am about to refer to the second.

LORD MERSEY.—I do not quite follow the question and the answer. Was there, according to your view, danger of collision at this time? If there was not the rule does not apply.

Mr. HAIGHT.—As I understand the rule, when vessels are crossing courses, there is always danger of collision if the course of each is maintained. When a man see a vessel off his starboard hand bound up the St. Lawrence and he is bound out into the gulf, as soon as he knows the position of the other vessel, which vessel he knows is going up the river, the rule applies. That is my understanding.

Sir ADOLPHE ROUTHIER.—You consider that the *Empress* was crossing?

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Mr. HAIGHT.—Yes, sir.

By Mr. Haight:

393. Q. Assuming, Capt. Kendall, that the *Storstad* was bound to Montral when you were on a course North 47 East it would necessarily be a crossing course with you?—A. Assuming what?

394. Q. When you first saw the *Storstad* you recognized that she was going up the St. Lawrence and that she was on your starboard hand?—A. Quite so.

395. Q. That then called upon you to keep out of her way and not to keep on your course?—A. The distance between the two ships at that time was too far apart to consider any point of collision.

By Lord Mersey:

396. Q. If they had kept on their course would there have been any collision?—A. No, my Lord, not on the course we were steering as the distance between the two ships was too far apart.

By Mr. Haight:

397. Q. If he had kept on his course as his vessel was first seen by you, would you have crossed his bow or gone under his stern?—A. I would have gone ahead of her a long time before she would have got to that point.

398. Q. How much do you think you should have cleared her bow if you had continued on your course North 47 East magnetic?—A. It is not a question of a short distance; it would be a great distance, a very great distance with the speed of my ship compared with the speed of his.

399. Q. You would have crossed her bow by a mile or two?—A. By keeping on my course North 47 magnetic.

400. Q. You say that your speed was such that you would have cleared him if you had remained on your course North 47 East?—A. Yes.

401. Q. When you changed your course North 72 East you headed your vessel very much more towards the *Storstad*?—A. Towards the land and the *Storstad*.

402. Q. Towards the *Storstad*? That change increased the risk of collision?—A. No, that did not increase the risk.

403. Q. Well, you brought your course so that you would pass very much more closely to the *Storstad*?—A. I had sighted his mast lights and the position he was steering.

LORD MERSEY.—Keep to the answer and you can explain afterwards. It is the truth to say that the change which you made did bring you closer to the ship?—A. It is.

By Mr. Haight:

404. Q. When you changed from a course of North 47 East, how far had you run from Father Point?—A. About $4\frac{1}{2}$ miles.

405. Q. When the vessels came together, did they remain in contact only an instant, or did the *Storstad* immediately back away?—A. She seemed to tear the ship's side as she went away with her.

406. Q. How long do you think the stem of the *Storstad* was in the wound?—A. It was a matter of moments.

407. Q. Three or four minutes?—A. I cannot give you any statement as regards time; it was a matter of moments.

By Lord Mersey:

408. Q. A matter of moments, I suppose, would be a matter of seconds?—A. A matter of seconds.

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By Mr. Haight:

409. Q. The *Storstad* was only in contact a few seconds and then backed away?
—A. Then backed away.

410. Q. Your statement is that your boat was absolutely dead in the water?—
A. Stopped.

411. Q. You feel positive of that?—A. I am positive she was stopped with no way upon her.

412. Q. There was no reason why the *Storstad* might not have stayed in the wound and perhaps saved this fearful catastrophe at least in part?—A. There was no reason.

413. Q. Did she back away practically on the angle at which she had hit you?
A. No.

414. How did she back up?—A. She backed away with her stern towards my stern.

By Lord Mersey:

415. Q. With her stern towards your stern?—A. She swung around in this direction (indicating).

By Mr. Haight:

416. Q. How do you mean with her stern swinging up against you; if she punctured you angling towards your bow then her stern was towards your bow and her stem down more or less towards the stern?—A. Because, he gave the order for full speed astern, and when the shock took place the right hand propellor was thrown around in the direction I mention.

417. Do you think that after the stem had punctured the side of the *Empress of Ireland* the action of the reversed engines would be sufficient to move the entire steamer around as well as the stem?—A. Quite so.

418. Q. You first saw the *Storstad* about 100 feet away from you?—A. About 100 feet.

419. Q. And you say she was going then and that you saw quick water at her stem?
—A. I did.

420. Q. Did you estimate her speed?—A. 10 knots.

421. Q. Assuming that you stopped your vessel in two minutes, do you think that the *Storstad*, loaded with about 11,000 tons of coal, could stop any quicker?—A. No.

422. Q. She would run probably farther through the water if anything?—A. Yes.

423. Q. How do you think that a vessel going 12 knots an hour, 100 feet away from you could succeed in backing away from you in a matter of three or four seconds after she struck you?—A. It was the impact that drove the ship back. With the speed on her engines at the moment.

424. Q. Do you think she would strike you and bounce away if she reversed her engines 50 feet away from you—rebound?—A. Yes, she rebounded to a certain extent.

425. Q. If she had kept her engines full speed ahead she would have rebounded?
—A. She would still go back.

426. Q. Is it not surprising that a boat that is going 12 knots an hour that shows only 50 or 75 feet away from you, can then come up, touch you, and back right off?—
A. No.

By Lord Mersey:

427. Q. Ten knots?—A. Ten knots, I said, My Lord.

By Mr. Haight:

428. Q. Yes, I apologize, I did not mean to mention a different figure from that which the Captain gave. When did you take command of the *Empress*, Captain?—A. On the 1st of May.

429. Q. Where was she then?—A. Halifax, N.S.

430. Q. You made a trip out and back?—A. Yes.

431. Q. When was this test made in which you ascertained how fast you could stop your vessel and put her astern?—A. It was made off Point Lynas on the Welsh coast.

432. Q. Was that on your first trip?—A. On my way out from Halifax.

433. Q. You took charge of the boat at Halifax and on going out from Halifax you made this test?—A. When I arrived off the Welch coast approaching Liverpool.

434. Q. Is there not a fairly well defined rule as to how far a steamer will run if you give her length and ordinary engine power.—A. It all depends on the build of the vessel.

435. Q. You feel satisfied that, going 18 knots an hour, you could stop your vessel in two minutes?—A. With 18,000 horse power machinery.

436. Q. Do you realize how many feet a minute 18 knots amounts to?—A. I do not realize the amount of feet per minute but I realize what I have seen and done.

437. Q. 18 knots an hour is about the equivalent of 1,800 feet a minute?—A. Quite so.

438. Q. You think you could overcome that speed in two minutes?—A. Yes, I do.

439. Q. Do I understand you correctly that you went up on your upper bridge and took the bearing of the *Storstad* range light and estimated that the vessels were then starboard to starboard before you could see the *Storstad's* coloured light at all?—A. Yes.

440. Q. So that you changed your course before you saw her green light?—A. Yes.

441. Q. You said that when you saw the *Storstad's* lights become misty, you stopped your ship?—A. I did.

442. Q. Is it usual, when you consider that you are in a position of absolute safety, to stop your vessel entirely, because the lights look a little misty?—A. A fog bank was approaching me from the land. Not knowing the thickness of this fog I thought it my duty to stop my ship knowing that there was a vessel in the vicinity.

443. Q. You have said that you were in a position of starboard to starboard so that your boats were in no danger of collision?—A. Quite so.

444. Q. When there is only one vessel in the vicinity and that vessel is absolutely in a safe position do you always stop your engines dead?—A. Knowing the position of the *Storstad* and knowing the denseness of the fog, I am not in a position to know what the other vessel is most likely to do.

445. Q. You considered that there was no possible danger?—A. I considered I was in a position of safety but not knowing what the other vessel might do when the fog covered her.

446. Q. Then, at that time you were not anticipating a possible violent change of course on the part of the other vessel?—A. No.

447. Q. Shortly after you stopped you actually saw the *Storstad's* green light?—A. Before the ship's way was off her I did not see her light.

448. Q. Shortly after you stopped the engines?—A. Then I saw his green light.

449. Q. The moment that he let you see his green light you ordered your engines full speed astern?—A. Yes.

450. Q. Why should you put your engines full speed astern with the vessel green to green and in safety?—A. The fog would be approaching the ship; I did not know and I preferred to stop until the fog had passed over.

451. Q. There is no rule which suggests running full speed astern or stopping dead?—A. I took the way off my ship because she is a ship that will carry a lot of way with the engines reversed.

452. Q. And it follows then that with vessels green to green it was a wise precaution to put your engines full speed astern?—A. And take the way off my ship.

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453. Q. You kept them going full speed astern until you got absolutely stopped dead in the water?—A. I did.

454. Q. You not only took off your fast headway but you took off all your headway?—A. I did.

455. Q. And you were absolutely inert?—A. I was.

456. Q. When you blew your first signal, three, and put your engines full speed astern, you could still see the *Stortad's* light apparently?—A. After the first three blasts.

457. Q. With the lights still showing, and with the vessels in the position of green to green, you still went full speed astern?—A. With the fog dimming their lights.

458. Q. And you continued to see the green light of the *Storstad* for some little time while you were going full speed astern?—A. Yes, for a minute.

By Lord Mersey:

459. Q. Will you tell me again what was your reason for going full speed astern?—A. To take the way off my ship, my lord.

460. Q. Why did you want to do that?—A. Because I was in that spot and the *Empress of Ireland* is a ship, that when she is proceeding at 18 knots, will carry quite a lot of headway; she will continue running for a mile or two.

461. Q. Your steamer?—A. Yes.

462. Q. Why did you want to stop?—A. Because I saw this thick fog bank approaching from the land.

463. Q. There was no other steamer complicating the situation except the *Storstad*?—A. No other steamer to my knowledge, my lord.

464. Q. Did you anticipate that she would do something that she ought not to do?—A. I anticipated that she might do anything if she were covered by the fog and the fog came between us.

By Mr. Haight:

465. Q. You said on your direct examination that the collision as it occurred, was only possible because of the *Storstad* cutting across and changing its course radically?—A. Yes.

466. Q. If you were heading North 72 East when the vessels came into contact at the angle shown in the diagram, (Exhibit 1) which you have drawn, the *Storstad* must have been pointed out almost into the river, would you not think?—A. To about Nor' Nor' West.

467. Q. Assuming that the *Storstad* was originally, when she sighted you, on a course of West by South, she had changed her course about seven points before she hit you?—A. Apparently.

468. Q. There is no reasonable explanation that you can give for such a radical change of course as that?—A. I can give no explanation.

469. Q. It would sound almost as if she were trying to run you down?—A. I would not say that.

470. Q. At least you can think of no rational cause for a man who is bound into Father Point changing his course Nor' Nor'-West and swinging seven points in a fog?—A. I can give an opinion of why he did it.

By Lord Mersey:

471. Q. I should like to hear it?—A. My own opinion is that as this man was approaching Father Point he was perhaps on the other side of the fog bank——

472. Q. What do you mean by the other side of the fog bank?—A. On the other side from me and towards the shore.

By Sir Adolphe Routhier:

473. Q. To the North or to the South?—A. To the South—and that he sighted, off his port bow, Cock Point gas buoy, which is an occulting light, and he immediately put his helm hard-a-port knowing that it marked a shoal.

By Lord Mersey:

474. Q. You think he tried to avoid running on a shoal?—A. That is my opinion, by porting his helm.

By Chief Justice McLeod:

475. Q. Was he at that time near the shoal?—A. He would have been $2\frac{1}{2}$ miles onto my position—somewhere about that.

By Mr. Haight:

476. Q. I see by the chart, Captain, that Cock Point light, which, as I understand, is a gas buoy, is in deep water beyond the shoal and that boats go close to it?—A. Not inside of it.

477. Q. Do you think the *Storstad* may have been so close in shore that he got Cock Point light on his starboard bow?—A. No, on his port bow.

478. Q. If he had it on his port bow he would be safe?—A. He would but he might have been in close and the fog lifting and, he seeing this light, ported his helm.

479. Q. Is it not a fact that the fog you saw was down river?—A. Between myself and the *Storstad*.

480. Q. When you left Father Point was it clear below?—A. Yes.

481. So that at the time the master of the *Storstad* could see the shore, Cock Point and Father Point?—A. Yes.

482. Q. It would be pretty hard to be taken unawares at Cock Point light?—A. I am not supposed to know his actions when he was in the fog.

483. Q. You cannot think of any other reason why he should have changed his course seven points?—A. I know of no reason except that.

484. Q. Now, assuming, Captain, that the *Storstad* was maintaining her course, and you, as you went out into the river, starboarded your helm, the changes in bearings which you have testified to would have been exactly the same, would they not?—A. When the light was hid from view how was I to know his change in bearing?

485. Q. You heard his whistle at first two points, and then four points, and then six points, on the starboard bow you said?—A. Yes.

486. Q. Now that result would have been exactly the same would it not if he had held his course, and you had changed your course on the starboard wheel?—A. When the fog came on I considered it my duty—

LORD MERSEY.—No, no—please answer the question. Put it to him again, Mr. Haight.

By Mr. Haight:

487. Q. When you heard the whistle of the *Storstad* at first two points, and then four, and then six points on the starboard bow, that result would have been accomplished, would it not, if the *Storstad* had been bearing West by South, holding her course and you sheering on your starboard wheel?—A. Yes.

488. Q. How long do you think it was between the time that the fog first shut out the *Storstad* and the moment of the actual collision?—A. About ten minutes.

489. Q. Is it customary for the master to remain on the bridge after the steamer has dropped her pilot at Father Point when the chief officer is on watch and apparently everything is clear ahead?—A. It is customary in the Canadian Pacific Railway steamships.

490. Q. Ordinarily leaving Father Point at that hour in the morning how long do you stay on the bridge?—A. I was intending to remain on until daylight, when I would be relieved by the chief officer.

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491. Q. But that was the chief officer's watch?—A. No, the first officer.

492. Q. Tell me, please, exactly how many officers you had on board?—A. Six.

493. Q. What are their degrees?—A. Chief, first, second, extra second, third and fourth.

494. Q. Then the first officer is the second mate as generally spoken of?—A. He is.

495. Q. On the ordinary vessel he would be called the second mate?—A. He would.

496. Q. He, I understand, survived?—A. He did.

497. Q. Do you usually keep the bridge when he is on his watch?—A. In the vicinity of the land.

498. Q. When you first saw the *Storstad* through the fog, about 100 feet away, coming out of the fog, you considered the collision inevitable?—A. I did.

499. Q. You did not then close or order closed your watertight bulkhead doors?—A. Not the first order.

LORD MERSEY.—Now, Mr. Haight, have you left the manoeuvres of these two ships?

Mr. HAIGHT.—I think, Sir, that—

LORD MERSEY.—Because if you have there is something that I want to have cleared up.

Mr. HAIGHT.—I think, Sir, that practically covers it.

LORD MERSEY.—Now, let me understand—Captain Kendall's suggestion is that the *Storstad* ported her helm and so brought the stem of the *Storstad* into collision with the starboard side of the *Empress*. Your suggestion, as I understand it, is that the helm of the *Storstad* never was ported.

Mr. HAIGHT.—No, my Lord, our course never changed to starboard.

LORD MERSEY.—That was as I understood you, you say you persevere in your course?

Mr. HAIGHT.—Absolutely, my Lord.

LORD MERSEY.—And you are suggesting by your questions that it was the *Empress* that changed her course and starboarded her helm and went over to port. Now, I asked this gentleman for an explanation, if he could give me one, of the course which he says the *Storstad* followed in porting her helm, and he gave me an explanation, whatever it may be worth, that the *Storstad* had probably seen an occulting light that marks a shoal, and her officer in charge on the bridge had probably ported her helm in order to avoid this shoal; now will you please tell me and my assistants for what purpose you suggest the *Empress* changed her course? He has told me what he thinks is the explanation of the *Storstad* doing what you say she never did—now I want your explanation of the reason why the *Empress* did what Captain Kendall says she never did?

Mr. HAIGHT.—I can only answer that question, my Lord, by surmising somewhat. I know that on our boat, if all my witnesses are not falsifying in their statements to me, we saw first her green light and then her red light.

LORD MERSEY.—But you are not answering my question.

Mr. HAIGHT.—I am going to, my Lord. My only hypothesis is that as the wheel of the *Empress* was ordered ported, as Captain Kendall states, from a course of N. 47 E. to N. 72, that would, on our course and in our position, show us his red light. I think at this stage of the testimony there is no foundation for it, but it is my idea that one man, perhaps the second mate, ordered his wheel ported, and that another man subsequently ordered the wheel starboarded.

LORD MERSEY.—Why?

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Mr. HAIGHT.—It is exceedingly difficult to say why, unless the position was supposed to be safe, and the fog had shut us out, and the course was going to take them a little out of their ordinary way, and the big steamship said: we have speed enough and room enough, and we can cross his bow. It is very hard to explain rationally, I admit, that is, if one man knows all the conditions.

500. Q. How far do you think the vessels separated, Captain Kendall, after the collision, when the *Storstad* backed away?—A. When I saw the *Storstad* after the ship had foundered I should say the *Storstad* would be about a mile away.

501. Q. And you think your vessel went down very close to where she was hit?—A. I certainly do.

502. Q. So that your conclusion was that the *Storstad* had not only backed out of the wound without any reason for it, but had continued backing until she was a mile away from you?—A. Yes.

503. Q. As I understand you, as the vessels separated the *Storstad* had swung around on to your starboard quarter, and the boats were heading more or less in the same direction?—A. Yes.

504. Q. That precise phenomenon would have resulted if the *Storstad* had been going slowly and the *Empress* had been going ten or twelve knots ahead, would it not?—A. No.

505. Q. Why not?—A. Not so rapidly.

506. Q. Do you think the *Storstad* could swing you around bodily with her engines going full speed astern faster than you could swing her around if your engines were going half speed or full speed ahead?—A. I think it was the first blow that made the ship move from the course she was on to the course she was on when she foundered.

507. Q. Would not the first blow result in a cut into your side?—your plating is about half an inch, I suppose?—A. Seven-eighths of an inch.

508. Q. Well, surely a boat with 11,000 tons of coal and her own weight, when she hits seven-eighths inch plating would cut a hole in it?—A. Yes, but the mass has to move as well.

509. Q. Is it not true that the stem of the *Storstad* cut into your engine room?—A. That I couldn't say.

510. Q. Has no one told you where the stem cut to?—A. No, I don't know where it cut to, the exact position.

511. Q. You yourself stated that our stem hit the bulkhead, did you not?—A. Yes.

512. Q. That is the bulkhead in the engine room?—A. No.

513. Q. After the engine room?—A. No.

514. Q. Forward of the engine room?—A. Yes, between the stoke-hold and the engine room, not in the engine room.

515. Q. Your blue prints will show precisely where it is?—A. They will.

516. Q. What made you think that she struck there?—A. The way the ship listed over and foundered so rapidly.

517. Q. You have not asked anyone from below at what point the stem came in?—A. No.

By Lord Mersey:

518. Q. In your opinion how many water-tight compartments were open to the sea?—A. That would be a difficult question to answer, my Lord.

519. Q. Certainly more than two?—A. Oh, yes, certainly more than two.

520. Q. Well, how many do you suppose?—A. Well, I should say the whole stoke-hold right in the body of the ship was exposed to the sea.

521. Q. I want to know how many water-tight compartments were open to the sea?—A. It would be about three.

522. Q. About three compartments open?—A. I think about three, my Lord.

523. Q. With two open to the sea she would float?—A. She would.

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By Chief Justice McLeod:

524. Q. Which compartments would they be that were open?—A. The stoke-hold and boiler rooms. I should say about three compartments. When the *Storstad* struck the *Empress* a sheet of fire shot out from the side of the ship.

525. Q. What is that?—A. I say when the stem of the *Storstad* struck the *Empress* a sheet of fire shot out in all directions from the *Empress*.

By Mr. Newcombe:

526. Q. What was the cause of that?—A. That I couldn't say.

By Lord Mersey:

527. Q. What do you think that was from?—A. I think she struck one of the boilers.

By Mr. Haight:

528. Q. I asked you, Captain Kendall, and I do not think you answered the question directly, would it not be true that if the *Empress of Ireland*, making ten or twelve knots, and the *Storstad* moving more or less slowly, if the *Empress* had been speeding across the bow of the *Storstad* after the bow penetrated your side, it would have swung the bow of the *Storstad* around to starboard and would have caused the vessels to separate as you say they separated?—A. If my ship had been going ahead that is what would have happened.

By Lord Mersey:

529. Q. How long had you been lying motionless?—A. From about five to seven minutes, my Lord.

By Sir Adolphe Routhier:

530. Q. Was it foggy then?—A. It was foggy.

531. Q. Had the *Storstad* whistled?—A. She answered with a prolonged whistle.

532. Q. And then, according to what you told us, you could locate the *Storstad*?—A. Approximately, from where the sound came from.

533. Q. I asked you if you were sure of it, and you said you were sure?—A. Well, approximately.

534. Q. Approximately only?—A. Yes.

By Chief Justice McLeod:

535. Q. Do I understand you were lying absolutely motionless from five to seven minutes?—A. Yes, my Lord.

By Mr. Haight:

536. Q. As I understand you, Captain Kendall, when you saw the *Storstad* 100 feet off coming out of the fog, you ordered your engines full speed ahead—do you think there was time for your boat to start ahead at all?—A. No.

537. Q. She was still dead in the water?—A. She was still dead in the water, yes.

538. Q. Now will you try to give, in chronological order with the time elapsed, the series of your whistles and the answers? I would like to know just how far you were from Father Point and on what course when you blew your first one long blast?—A. I did not blow one long blast.

539. Q. When the fog first came on, did you never blow a running whistle?—A. I stopped my ship before the fog came between the two ships.

540. Q. So you never blew a signal of one whistle, the ordinary fog blast?—A. No.

541. Q. How far do you think you were from Father Point when you blew your first whistle, which I understand now was three blasts?—A. About six and a half miles.

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542. Q. And how were you then heading?—A. North 76 E. compass, North 73 magnetic.

543. Q. And how far off was the *Storstad* at that time, Captain Kendall?—A. About two miles.

544. Q. And how did she bear?—A. North 87 East by compass, North 84 by magnetic.

545. Q. And how long was it before you blew the next signal of three whistles?—A. I should say probably about as much as a minute.

546. Q. And how far do you think you had gone in that minute?—A. Apparently a ship's length.

547. Q. Could you then see the *Storstad*?—A. No.

548. Q. Where were you when you blew your next whistle?—A. Almost on the point of being stopped.

549. Q. But where were you with reference to the point when you blew your second signal of three whistles—how far had you gone ahead in the meanwhile?—A. About another ship's length.

550. Q. And how long elapsed between the second and third signal?—A. A little over a minute perhaps.

551. Q. When did you stop your engines from their reversed motion?—A. When I saw the ship was stopped.

552. Q. But with reference to your whistles—was it at the time you blew the second or third?—A. After I blew the second three blasts.

553. Q. Now to each of these signals did you get an answer?—A. A prolonged blast.

554. Q. Sounding continuously on your starboard side?—A. Yes, a prolonged blast on the starboard side.

555. Q. Now, after your third signal of three whistles, your next was what?—A. After the second signal of three whistles.

556. Q. No, after the third, your next signal was what?—A. I only blew two signals of three whistles each.

557. Q. I understood you differently—at any rate you blew first a signal of three whistles?—A. Yes.

558. Q. And then a signal of three more?—A. Yes, when the ship was stopped just before the way was off.

559. Q. Then the next was what?—A. When I found the way was off the ship, I blew two prolonged blasts.

560. Q. And how much time elapsed between the second signal of three whistles, and the first signal of two whistles?—A. A couple of minutes.

561. Q. And then how much did you change your position?—A. The ship was stopped.

562. Q. Then you blew the signal of two whistles, which was the third whistle in the same spot where you blew the second and third?—A. Not in the same spot, but almost.

563.—Q. And what was the next?—A. Two prolonged blasts.

564. Q. And how long after the third signal was the fourth signal given?—A. About a minute.

565. Q. And what was your position with reference to your position at the time the third signal was given?—A. We were still in the same position.

566. Q. And what was your next signal?—A. I didn't blow any more.

567. Q. So you blew three blasts twice and two blasts twice, is that right?—A. Yes.

568. Q. And how long elapsed all told between the first three and the second two?—A. About four or five minutes.

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569. Q. And how far do you think your vessel ran?—A. About two ship's lengths.

570. Q. That is from the first signal of three whistles to the second signal of two whistles?—A. Yes.

571. Q. That is during the five minutes you were blowing the four signals you think you only ran A. Two lengths.

572. Q. Only two lengths?—A. Yes.

573. Q. And during that entire time you think you maintained your heading?—A. I did.

574. Q. Did you watch the compass from time to time to make sure of that?—A. Before I blew the last two prolonged blasts I went up on to the standard compass and looked at the direction of the ship's head.

575. Q. That was the fourth signal?—A. Yes, before the fourth signal.

576. Q. And how was she still heading?—A. North 75 East by compass.

577. Q. How long all told do you think your vessel was actually dead in the water?—A. About seven minutes.

578. Q. And during that seven minutes would the current have any effect upon your boat at all?—A. Very little.

579. Q. Well you think actually in this case it had absolutely none at all?—A. No. It runs about one and a half to two and a half knots per hour.

580. Q. But upon your heading, your observation on the standard compass was that the current had not changed your heading at all?—A. No, not at all.

581. Q. Now will you please state in precise order the exact orders that you gave after you saw the *Storstad* coming out of the fog about one hundred feet away?—A. I shouted through my megaphone to the *Storstad* to go full speed astern.

582. Q. And heard no answer?—A. No, I shouted several times quickly.

583. Q. And what was the next order that you gave?—A. I sent my first officer away at once to get the life-boats ready; I rang my engines full speed ahead, threw my helm hard-a-port, and by the time the engineer had answered me from the engine-room from his telegraph the *Storstad* had struck the *Empress*. I then ran to the telegraph and started the engines and rang to close the water-tight doors and shouted to the *Storstad* to keep full speed ahead, to keep full speed ahead.

584. Q. And then you ordered the boats A. It would be impossible for me now to tell you the orders I gave.

By Lord Mersey:

585. Q. You say the *Storstad* was about 100 feet away from you when you saw her?—A. Approximately, my Lord.

586. Q. At what speed was she going then—you said you thought about 10 knots, did you not?—A. I should say about 10 knots by the foam at her bow.

587. Q. And how long would it take her to reach you?—A. It would be a matter of seconds, my Lord.

588. Q. Well can you give us an idea how long it would take her?

Mr. HAIGHT.—If your Lordship will allow me, ten knots an hour is 1,000 feet a minute, and Captain Kendall said she was about 100 feet off, so that would be about six seconds.

By Lord Mersey:

589. Q. Now will you tell me again, captain, what the orders were that you gave during those six seconds?—A. I shouted to the *Storstad* to go full speed astern and I shouted to the first officer to get the boats out, and I threw the engine full speed ahead.

590. Q. But you gave other orders before you came to that?—A. I shouted to the *Storstad* to go full speed astern.

591. Q. Well now, tell us again what you have just told Mr. Haight, the orders you gave in those six seconds after you saw the *Storstad* coming out of the fog?—A.

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I just threw the engines full speed ahead and shouted helm hard-a-port, sent the officer who was standing by me and said, get all boats out at once, when I was struck, my ship was struck almost at the time that my telegraph rang to the engine-room.

592. Q. You gave a great many orders in six seconds?—A. Yes, my Lord, I did. When I say 100 feet, of course, that is approximate.

By Mr. Haight:

592½. Q. How far do you usually go from Métis Point?—A. About four and a half miles.

593. Q. Leaving Father Point, do you usually take a course out into the river and then straighten down and leave Métis Point on your starboard about four and a half miles away?—A. Four to five miles away.

594. Q. In your direct examination you spoke of a conversation with the master of the *Storstad*. As I understand you, you went into the chart-room or on the bridge and said to the captain of the *Storstad*, 'You sank my ship, you were going full speed ahead,' and he said, 'I was not going full speed ahead, you were.' Is that correct, Captain Kendall?—A. Yes.

595. Q. Did you at that time drop down on to a bench in the chart-room and drop your face in your hands and say: 'I wish to God I had gone faster?'—A. No.

596. Q. Was there any conversation at all of that character?—A. On the bridge before, when I saw him on the bridge, he said: 'You were going full speed,' and I said: 'I wish I was; if I had been you would never have hit me.' That was my remark.

597. Q. Did you at that time accuse the captain of the *Storstad* of having changed his course and deliberately run you down?—A. No.

598. Q. Did you complain at that time that he had quite unnecessarily backed off, and backed off half a mile and left you there to sink?—A. No.

599. Q. None of those things were discussed?—A. No.

600. Q. Do you remember passing another steamer, Captain Kendall, an hour or two before?—A. No.

601. Q. Well, about ten o'clock, don't you remember?—A. I don't remember.

602. Q. Were you on the bridge?—A. Yes.

603. Q. How does the *Empress of Ireland* steer under normal conditions, easily or otherwise?—A. Very easy.

604. Q. So that any change of course you do make is the result of deliberate intention by actual change of wheel?—A. Yes.

605. Q. Has there recently been any change in the rudder of the *Empress*?—A. No.

606. Q. Was she at the time of the accident carrying the same rudder that was originally installed when she was built?—A. That I could not say.

607. Q. How old is she?—A. Eight years.

608. Q. Did you never hear, Captain Kendall, that the rudder of the *Empress* actually was changed in an effort to cure bad steering qualities?—A. No. It may have been, but I do not know.

LORD MERSEY.—The question is if you heard that?—A. No, my Lord, I never heard it.

By Mr. Haight:

609. Q. Her stern is of quite a different construction from that of the ordinary passenger steamer?—A. Yes.

610. Q. What is the difference?—A. There is a balanced rudder.

611. Q. The stern also, is that which is usually on battleships and cruisers, is it not?—A. No.

612. Q. Has she the normal overhang?—A. Yes.

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613. Q. Shaped like the ordinary passenger boats?—A. Yes.

614. Q. What has become of the log-book that was found?

LORD MERSEY.—I thought the witness told us just now that the log-book had gone down with the ship.

Mr. HAIGHT.—No, your Lordship, I understood him to say on direct examination that one had been found.

LORD MERSEY.—His own scrap-log?—A. That is the log.

Mr. HAIGHT.—That I suppose will be subject to examination?

Mr. ASPINALL.—I understand that that was found by some one other than anybody on our ship, and it has been in possession of the Government ever since, and we have not seen it. Mr. Newcombe showed it to me just before lunch. But it ends at midnight, I think.

LORD MERSEY.—Will you let me see it or do you object? Do you object to my looking at this book, Mr. Haight?

Mr. HAIGHT.—Indeed I do not my Lord. I would like the same privilege.

Lord Mersey:

615. Q. Am I right in saying that this book was entered up only to midnight, Captain Kendall?—A. Quite right, my Lord.

LORD MERSEY.—Have you seen this book, Mr. Haight?

Mr. HAIGHT.—I have not, my Lord.

LORD MERSEY.—Then you ought to look at it.

Mr. HAIGHT.—I would like to ask your Lordship also if we could not have the right to inspect, if my learned friends have no objection, the logs of the *Empress* on the two or three preceding voyages.

LORD MERSEY.—I would like you to tell me what the point is on which you would like to examine them.

Mr. HAIGHT.—Simply to show the normal course of the *Empress* leaving Father Point on her way to sea, if any inference can be drawn from what has been done in the past.

LORD MERSEY.—I think that might be valuable.

Mr. ASPINALL.—My Lord, I understand these logs are in Liverpool, but we will take immediate steps to have them sent out—whether they arrive in time or not I cannot say.

LORD MERSEY.—You must consider, Mr. Haight, whether it is worth while to consider looking at those logs, considering that they are in Liverpool.

Mr. ASPINALL.—If Mr. Haight on consideration still thinks it is well that he should have them, we shall give effect to his request.

Mr. HAIGHT.—I do not think we need to prolong the hearing on account of them. If my learned friend will send a cable to mail them, and then if they do not turn up in time we will not wait for them.

LORD MERSEY.—Things might arrive from Liverpool and be found to be of as little value as that log that I have just looked at. Now, I would like to know if any of the other Counsel have any questions which they wish to put to Captain Kendall. First I would ask Mr. Gibsone.

Mr. GEOFFRION.—My Lord, I have no questions to put to the witness now, but I would ask that my right to put questions should be reserved to the last, as I appear

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for the officer. I mean I represent the witness who is in the box, and all I want would be the right to re-examine him.

LORD MERSEY.—I am afraid there is a mistake in identity. I meant to ask Mr. Gibsone if he desired to ask any questions.

Mr. GIBSONE.—Perhaps I should say, my Lord, what we have to respectfully submit to the court, as a matter that we consider of interest to the present inquiry. My instructions are to deal with the points as to whether there were enough mariners, able-bodied seamen, on board the *Empress* on this voyage. The instructions I have are that this steamer had in her crew only 18 able-bodied seamen—she had a boatswain, a boatswain's mate, four quartermasters, a lamp-trimmer, a store-keeper, a carpenter, a carpenter's mate, and 18 able-bodied seamen, a total of twenty-eight men that may be classified as mariners, and we respectfully suggest, my Lord, that the number is insufficient considering the size of the steamer and considering the fact that there were thirty-two boats.

LORD MERSEY.—Does the Union you represent consider it insufficient?

Mr. GIBSONE.—That is it, my Lord. Your Lordship's ruling was that I should not be allowed to ask any questions, but might suggest questions to the court.

LORD MERSEY.—But I want to know the materiality of the question in this inquiry. I can quite understand that the Union may feel aggrieved that not more men are employed, but how does it affect the navigation? Do you suggest that the navigation we are inquiring into was affected by the number of able seamen on board?

Mr. GIBSONE.—I suggest, my Lord, that there were not enough able-bodied seamen to man the boats, to put the boats into the water. There were sixteen boats on the davits and there were only at the outside twenty-eight men who could be classed as able seamen.

LORD MERSEY.—On that point, Mr. Gibsone, you may ask as many questions as you think are right. You may ask questions to the Captain directly.

Mr. GIBSONE.—Also in answer to your Lordship's question I might say that I think in the questions submitted by the Deputy Minister of Marine and Fisheries to the Minister, if I recollect correctly—I only heard it read out once—but I think the second question deals with the point I am drawing the attention of the court to now.

LORD MERSEY.—Read the question, Mr. Gibsone.

Mr. GIBSONE.—I haven't a copy of these questions. However, one has just been handed to me, and I refer to question 1, Section a.—What was the total number of persons employed in any capacity on board her, and what were their respective ratings? And it is questions referring to this that I suggest should be asked of the master of the ship, with the purpose that I have just stated a moment ago.

LORD MERSEY.—I have taken down so far only the statement that the crew consisted of 420 men. I suppose that includes the stewards, and stewardesses, does it not?

Mr. ASPINALL.—Yes, my Lord.

LORD MERSEY.—Now what is it you wish to ask—how many of these were able-bodied seamen or what?

Mr. GIBSONE.—Yes, my Lord, to classify the crew.

By Lord Mersey:

616. Q. Can you tell us this, Captain Kendall, do you know how many of this crew were able-bodied seamen?—A. The numbers I could not say—the number on the deck.

617. Q. Oh, I am not talking about the deck?—A. The deck department I mean, my Lord. I can get the figures right here.

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618. Q. And now will you tell the court this, as far as your observation went, were the boats got out as quickly as it was practicable to get them out?—A. They were, my Lord.

619. Q. That is there were enough men or hands, there was no lack of hands for that?—A. No, my Lord, I have here in my hands now the original crew list leaving Liverpool.

By Mr. Gibsone:

620. Q. Will you please tell us, Captain Kendall, what your crew consisted of—I think you said the total crew consisted of some 379—I think those are the figures I noted down?—A. 420.

621. Q. What did they consist of so far as rating was concerned?

LORD MERSEY.—You will find that in the paper, Mr. Gibsone.

Mr. GIBSONE.—May I have time to count them out, my Lord?

LORD MERSEY.—Now, is there any one else who wishes to cross-examine Captain Kendall?

Mr. NEWCOMBE.—My Lord, I propose, with your Lordship's permission, to put a few questions to Captain Kendall.

LORD MERSEY.—Very well, Mr. Newcombe.

By Mr. Newcombe:

622. Q. Captain Kendall, you know this book of regulations for the navigation and discipline of the steamships of the Canadian Pacific Railway Company that has been referred to?—A. Yes.

623. Q. That is the book furnished you by the management for your guidance as commander of the ship?—A. It is.

Q. Now, there are a few of those rules that I want to read and ask you about. First, rule 193—before the ship proceeds to sea at the commencement of any voyage, the Commander, assisted by the Chief Officer, Chief Engineer, Purser, and Chief Steward, will prepare a Fire and Boat Station Bill, appointing every man to his proper post, and the utmost care must be taken that every man on board knows his station and duty. Copies of the "Bill" will be posted in a conspicuous place in the forecabin, engine rooms and steward's and foremen's quarters. This is one of the rules that is found on page 55 of that little book.

LORD MERSEY.—Those are the rules of the Canadian Pacific Railway Company, I understand, Mr. Newcombe?

Mr. NEWCOMBE.—Yes, my Lord. Then the rule proceeds to this effect: Boat hands who are efficient will receive a Board of Trade certificate to that effect. They must know their duties thoroughly. Every boat carrying less than sixty-one souls must have three efficient hands, from sixty-one to eighty-five souls, four, and from eighty-five to one hundred and ten, five efficient hands.

624. Q. What do you say, Captain Kendall, about the execution of that rule at Quebec upon the occasion of this voyage?—A. That was carried out to the letter.

625. Q. Carried out to the letter?—A. Yes.

626. Q. And according to your statement you were well provided with efficient hands for the management of these boats?—A. We were.

627. Q. Now, here is another rule, Number 67: The cargo side ports will be opened whenever possible for purposes of ventilation, gratings being invariably shipped. These ports will be in the charge of the carpenter, and must only be opened by the instructions of the Commander or Chief Officer. The most careful attention must be given to the coaling ports below the upper deck. They will be in charge of the carpenter, acting under the instructions of the Chief Officer. Closing of ports before

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sailing must be entered in log. Were these ports closed before you left Quebec, Captain Kendall?—A. They were.

628. Q. When you speak of ports under that rule you refer to the large openings?—

A. The square ports, not ports in the rooms.

629. Q. Not the lights, of course?—A. Oh, no.

630. Q. And you know those were closed on leaving Quebec on the last voyage?—

A. They were.

631. Q. Did you observe whether there was an entry made in the log of the closing of these ports?—A. No, the Chief Engineer reports it to me.

632. Q. It was reported to you?—A. Yes.

633. Q. Now, Rule 23 : The Commander, accompanied by the Doctor, Purser, and Chief Steward (and in the engine rooms by the Chief Engineer), will, unless weather conditions render it impracticable or unless the ship is in narrow waters, when the Chief Officer will act as Deputy, hold a complete inspection of all parts of the ship each day at ten-thirty a.m. During this inspection, all members of the crew detailed for water-tight doors will be at stations, and all doors will be opened and closed. Notices must be posted in the passengers' quarters to this effect, with a request that complaints be made to the Commander. The Chief Steward will daily visit every stateroom whether occupied or not.

Now, when was such an inspection as that made previous to the accident?—A. At a quarter to eleven o'clock the same morning.

634. While at Quebec?—A. Yes, the morning of leaving.

635. Q. At Quebec before you sailed?—A. Yes.

636. Q. And the members of the crew detailed for water-tight doors were at their stations?—A. Yes.

LORD MERSEY.—What is the point we are on at present, Mr. Newcombe?

Mr. NEWCOMBE.—One of our inquiries relates to the question as to whether these various precautions providing for safety upon such occasions as this were complied with.

LORD MERSEY.—Well, have you any information which leads you to believe that they were not?

Mr. NEWCOMBE.—We have no information upon that subject.

CHIEF JUSTICE MCLEOD.—These rules were prepared by the Company for the management of the ship. Would it not be sufficient to ask Captain Kendall if the regulations prepared by the Canadian Pacific Railway Company for the management of the ship were all properly carried out?

LORD MERSEY.—That seems to me to be sufficient.

Mr. NEWCOMBE.—Well, Captain, you have heard the question suggested by Chief Justice McLeod.

CHIEF JUSTICE MCLEOD.—I suggested that you should ask it, Mr. Newcombe.

Mr. NEWCOMBE.—It is suggested by the Court that I should ask you whether you are prepared to say—

CHIEF JUSTICE MCLEOD.—Well, first of all I think he should be asked if he knows the regulations.

Mr. NEWCOMBE.—You have read this book of instructions, Captain Kendall?

Captain KENDALL.—I have.

637. Q. And you are quite familiar with the instructions contained in this book?—A. Yes.

638. Q. Now are you prepared to say that every one of these regulations was carried out and observed in respect to this voyage?—A. Those that were practicable.

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639. Q. What do you mean by a double watch going down the St. Lawrence—there is a rule about having a double watch?—A. Two officers on at a time.

640. Q. On the bridge?—A. Yes, and a double look-out.

641. Q. That is one man on—A. One in the crow's nest and one in the stand at the fore-castle head.

642. Q. And you had such a watch as that?—A. I had.

643. Q. Well now, Rule 44 says: Water-tight doors are to be ready to be closed instantly, and every possible precaution taken for the safety of the ship. When to the eastward of Longitude 11 West or to the Westward of Longitude 51 West, and whenever in proximity to the land, frequent soundings must be taken.

Now, with regard to the provision that water-tight doors are to be ready to be closed instantly—you were familiar with that rule?—A. Yes.

644. Q. Then the first words of that rule are as follows: in fog or snow speed is always to be reduced, water-tight doors to be ready to be closed instantly, and every precaution taken for the safety of the ship?—A. Yes.

645. Q. Now did you consider that you were in fog at the time of the collision just before you met with this collision?—A. I was not in fog before, but during the collision I was in fog.

646. Q. Was there anything done with respect to preparing to close these doors?—A. Not at that time.

By Lord Mersey:

647. Q. And I suppose the doors were ready to be closed?—A. Yes, my Lord, all ready. The crew simply waited for the signal.

By Mr. Newcombe:

648. Q. Now, Rule 50: The Commander will see that at all times in foggy weather or in falling snow hands are stationed to close instantly all water-tight doors which are not already closed. All self-closing doors will be kept closed. If at any time fog or snow shut down in the Gulf of St. Lawrence or St. Lawrence river, the same special precaution must at once be taken, entry being made in the ship's log-book and in the engineer's log-book of the time of opening and closing. Were the self-closing doors kept closed on this occasion?—A. We have no self-closing doors.

649. Q. Well then, were hands stationed to close instantly all water-tight doors which were not already closed—can you say whether any doors were closed after the collision?—A. I can't say.

By Lord Mersey:

650. Q. I thought you told us just now that some doors had been closed before you gave the order?—A. They were already doing it, my Lord.

651. Q. Before you gave the order?—A. Yes, I rang the telegraph, my Lord, and then to make sure that my signal was not misunderstood I also spoke to the engineer through the 'phone to the engine room.

652. Q. And the answer was that they were already doing it?—A. Yes, my Lord.

By Mr. Newcombe:

653. Q. Now, Captain Kendall, as I understand your testimony, with regard to the collision, those two ships were never crossing ships with liability to collide until after the *Storstad* came six or seven points on your starboard side?—A. Quite so.

654. Q. What sort of a night was it—it was said to be clear, can you describe it—was there a moon, were there stars shining?—A. A young moon, stars shining.

655. Q. A clear night?—A. A beautiful, clear night.

656. Q. You could see the land?—A. Yes.

657. Q. And see the shore lights all about?—A. Yes.

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658. Q. And you could see the lights on a ship approaching at what distance?—
A. I should say at about eight miles.
659. Q. At about eight miles?—A. Yes.
660. Q. And you were on the bridge all the time?—A. Yes.
661. Q. You had picked up the lights of the *Storstad* in clear weather?—A. Yes.
662. Q. You knew that there was no other ship on the horizon?—A. Yes.
663. Q. When you first raised these lights am I right in saying that they were very fine on your bow?—A. No, three or four points on my starboard bow.
664. Q. When you first raised them they were three or four points on your starboard bow?—A. Yes.
665. Q. Well now, you were then on a course different from where you had put your pilot down?—A. Yes.
666. Q. To make some offing, to make your course down-stream I suppose?—A. Yes.
667. Q. And you did change your course after these lights came in view?—A. Yes.
668. Q. To the eastwards?—A. Yes.
669. Q. I think I am right in saying that, am I not?—A. Yes.
670. Q. At that time you had seen the masthead light?—A. Yes.
671. Q. Had you seen the coloured lights?—A. Not until I altered my course.
672. Q. Will you tell me again what the course was as altered?—A. N. 76 E. by compass, N. 73 Magnetic.
673. Q. Now would that be the course you would hold going down river?—A. It would.
674. Q. You were far enough away from land to take your regular course and were going down stream on that course?—A. Yes, on a good safe course.
675. Q. You were bearing then with Cock Point how? Abeam? Cock Point would be on your starboard beam about?—A. Yes.
676. Q. And at about what distance?—A. Two and a half to three miles.
677. Q. About two and a half to three miles when you took an easterly course?—A. Yes.
678. Q. In going up and down there—a vessel coming up the St. Lawrence as the *Storstad* was, does she come up in substantially the same course or locality that a vessel would go down?—A. Not always.
679. Q. I mean to say is there any rule of practice with regard to that?—A. No.
680. Q. If you meet a vessel coming up there and you are going down in your usual course, are you likely to raise her dead ahead of you or to starboard or port, or how? Or is there any rule about it?—A. It all depends on the position of the other ship.
681. Q. I know that, but I mean the usual course—is there any usual course for vessels going up and going down?—A. No, no usual course.
682. Q. Of course they have to converge at Father Point anyway for pilotage purposes, I understand?—A. Yes.
683. Q. But apart from that, you have your offing and you had your offing at a distance of about three miles from the South shore as I understand it?—A. Yes.

By Lord Mersey:

684. Q. Did the *Storstad* have to pick up a pilot?—A. Yes, my Lord.
- Q. Where?—A. At Father Point.
685. Q. She had not picked the pilot up?—A. No.
- Mr. NEWCOMBE.—He would take up the pilot where Captain Kendall had put his down.

By Lord Mersey:

686. Q. That is correct is it, Captain Kendall, that the *Storstad* would take up a pilot at Father Point where you had put yours down?—A. Yes, my Lord.

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By Mr. Newcombe:

687. Q. Now, everything was clear, you were approaching each other at the normal speed for both ships, you knew the *Storstad* was coming up, and you knew where you were going, and you knew the speed of your ship—now I would like to know about this—you say the fog came from the land?—A. Yes, from the land.

LORD MERSEY.—He has told us that a long time ago that he saw the fog coming from the land.

Mr. NEWCOMBE.—Yes, my Lord, I do not want to ask a question which will duplicate any evidence, but I would like to know if possible what the size of that fog bank was, was it a drift of fog—could you see over it clear on the other side?—A. No.

688. Q. How high was it?—A. That I couldn't say.

689. Q. And might I ask this question, with the permission of the court—when you stopped, that is when you reversed your engines and finally stopped, was that because of the fog or was it because you knew that the *Storstad* was ahead of you?—A. Because of the fog, and also of the *Storstad*.

690. Q. Well, if there had been no light would you have stopped—you often run into fog on the Banks of course?

LORD MERSEY.—As I understand, Captain Kendall, if you had kept on your course this calamity would not have happened, is that correct?—A. Provided the other ship had kept on her course.

By Mr. Newcombe:

691. Q. When you had the other ship six points on the starboard bow, would there be an impropriety in going ahead on your course?—A. I was carrying out the rules of the road, by waiting until he was finally passed and clear.

692. Q. Did you stop dead in the water at any time?—A. Yes, I did.

693. Q. Did you go astern at all?—A. I did.

694. Q. I understand you reversed. What I mean is did your ship go backwards under her reverse helm at all?—A. No, she didn't.

695. Q. Do I understand you to be certain that the speed was taken off her?—A. She became stationary.

By Lord Mersey:

696. Q. You did not go back?—A. No.

By Mr. Newcombe:

697. Q. Then when you saw the *Storstad* 100 feet away the engines were put full ahead?—A. Full ahead.

698. Q. And held hard-a-port?—A. Held hard-a-port.

699. Q. How did you give that order?—A. I rang the telephone myself and gave the order to the man who was steering.

700. Q. You say that order was executed before the ships came into collision?—A. By the officer who was watching the steering.

701. Q. Had the *Empress* paid off at all under her port helm before the collision?—A. That I cannot say.

702. Q. Were the engines started ahead before the collision?—A. They may have been; I would not say.

703. Q. You gave the order?—A. Yes.

704. Q. You do not know?—A. I stopped almost immediately.

705. Q. Where were you on the ship when the collision happened?—A. On the starboard side of the navigation bridge.

706. Q. When did you give the order to stop; how was that order given?—A. When the way was taken off the ship.

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707. Q. When you were full speed ahead, hard-a-port, then you stopped, didn't you, after that?—A. I stopped almost in a matter of moments afterwards.

708. Q. How did you give that order to stop?—A. By the telegraph to the engine room.

709. Q. Were the engines stopped?

LORD MERSEY.—Tell me what the point is you want to make; I cannot follow you, you know, unless I know what you are driving at.

Mr. NEWCOMBE.—What I am trying to find out is whether there was any way on this ship at the time of the accident.

LORD MERSEY.—Whether or not it is true is another matter, but he has told us over and over again that there was not.

Mr. NEWCOMBE.—If your Lordship is satisfied I am.

By Mr. Newcombe:

710. Q. Have you stated—if you have, I do not want you to duplicate it—how long the vessel remained afloat after the collision?—A. About ten to fifteen minutes.

711. Q. Not exceeding 15 minutes, you would suppose?—A. No.

LORD MERSEY.—Seventeen minutes might be very accurate; it doesn't in the least matter whether it was 15 or 17.

By Mr. Newcombe:

712. Q. Can you tell me whether any were killed or injured in the collision?—A. Some were injured; I could not say about being killed.

713. Q. Have you given your opinion as to the reason why the ship sank so quickly?—A. No.

714. Q. Have you any opinion about that?—A. I have given no opinion.

715. Q. Have you any opinion that is of any value to the court?—A. In the collision the starboard boiler was misplaced off the cradles.

716. Q. On account of what?—A. The terrible impact.

By Lord Mersey:

717. Q. Do you mean to say the starboard boiler was torn away from its bed by the list of the ship?—A. Not by the list; by the terrible impact of the collision.

By Mr. Newcombe:

718. Q. What was the effect of that?—A. The effect would be to fall to the low side of the ship.

719. Q. The effect would be that the boiler would roll over to the starboard side of the ship?—A. Yes.

720. Q. And that would upset the ship?—A. And hold the ship in that position.

721. Q. Any injury caused by the boats falling off on the port side?—A. That I could not say.

722. Q. Did you see the boats of the *Storstad* picking up the survivors?—A. I did.

LORD MERSEY.—He told us that before.

By Mr. Newcombe:

723. Q. Were all the life-saving appliances which you had on board at Liverpool when you passed inspection there on board and in good order when you left Quebec?—A. They were.

By Mr. Haight:

724. Q. Will you please give, Captain Kendall, the exact time that you dropped your pilot at Father Point?—A. 1.20 a.m.

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725. Q. That is, Montreal standard time?—A. Montreal time.

726. Q. You spoke of having run into fog twice before you reached Father Point?
—A. Yes.

727. Q. And that you stopped your engines on both occasions?—A. I slowed down.

728. Q. About how long were you running slow the first time you struck the fog?
—A. I could not tell you the exact time; I do not think more than about 10 minutes on each occasion.

729. Q. On each occasion?—A. Yes.

730. Q. I see no entry in the log which refers at all to the fog at Bic. Is it not usual to log fog when you slow your engines?—A. It is.

731. Q. When you slowed on these occasions for about 10 minutes each time, to what speed did you reduce?—A. About 8 knots to slow.

By Mr. Gibsone:

732. Q. This exhibit which is headed 'Return List of Crew on Articles,' would you look at it, Captain Kendall, and see how many able-bodied seamen appear upon it?

LORD MERSEY.—Have you looked at it yourself?

MR. GIBSONE.—Yes, my Lord.

LORD MERSEY.—You know how many there are?

MR. GIBSONE.—There are apparently 19, my Lord.

LORD MERSEY.—Very well then, let it be 19.

MR. GIBSONE.—Out of the total crew, which appears to be 413 by this list, there are marked as being of the deck department 59, including officers; the engine room department, 132, and the victualling department 222. You state that these figures are right?

THE WITNESS.—That is about correct.

By Mr. Gibsone:

733. Q. Immediately preceding the accident how many of the deck department were on duty?—A. Half that number.

734. Q. Half that number?—A. Of the deck department.

735. Q. That would be 29, would it?—A. It would be half that number.

736. Q. There are 59 altogether. Are you in a position to say that immediately preceding the accident there were—

LORD MERSEY.—Do you know that part of it?

MR. GIBSONE.—My instructions are that there were eight men on duty on deck.

By Lord Mersey:

737. Q. Is it true or is it not true that there were only eight men on duty on deck?
—A. It is not true, My Lord.

By Mr. Gibsone:

738. Q. Is it true or is it not true that there were only eight men and two boys on deck, in addition to two quarter-masters who were on the bridge, one man who was on the lookout in the crow's nest and one man who was on the lookout at the forecastle head?—A. And the boatswain; that is about correct. I was going to explain that he is including carpenter and carpenter's mate who are not put on watch; they work all day, and the lamp trimmer, the masters at arms and inspector. All these come under deck department; therefore we do not place these men on watch.

739. Q. So it is correct to say that there were on deck on duty immediately preceding the accident, about 12 men, including the two quarter masters on the bridge, and the two men on the lookout?—A. And the boys.

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740. Q. The two boys. When boat drill is given, are the collapsible boats put in shape to float, or are they left collapsed on the deck?—A. Any boat which the surveyor likes to call for is put into shape and put over the side.

741. Q. I understood you to say that you always put through boat drill before the vessel left port?—A. Yes.

742. Q. When the vessel left port on the 28th of May was deck drill performed?—A. On the previous Saturday, the day after her arrival at Quebec.

743. Q. Were any of the collapsible boats put in shape?—A. Two.

744. Q. Were they done by the A.B.'s or were they done by themselves?—A. By the crew of the boats, of each boat.

745. Q. Are you in a position to say whether the firemen and stewards are trained in the handling of collapsible boats?—A. Yes.

746. Q. You say that was done before the ship left Quebec on the 28th May?—A. Yes.

747. Q. I think you stated also that there were 16 boats on the davits?—A. Sixteen.

748. Q. And 16 collapsible boats besides those on the davits?—A. Yes.

749. Q. Underneath the davits?—A. Yes.

750. Q. These are all up on the boat deck?—A. Yes.

751. Q. Any boats on any other deck?—A. Yes, on the after deck.

752. Q. How many?—A. About 11 boats.

753. Q. Were these collapsible boats?—A. Five were.

754. Q. The others were not?—A. Two were steel boats on the davits.

755. Q. Did the deck crew respond readily and promptly to the call to the boats?—A. They did.

756. Q. Did they show any preference to themselves, to saving their own lives?—A. That I could not say, but I don't believe it.

MR. NEWCOMBE.—I should like to ask one more question.

LORD MERSEY.—I cannot have the same thing more than three or four times; I would like to hear Mr. Aspinall.

MR. NEWCOMBE.—I am very sorry, my Lord, but I want to ask one question with regard to the screws. He says that when he reverses the ship goes directly in the opposite direction; it does not swing at all. I propose to ask him whether both his screws were right hand or left hand, whether they revolved in opposite directions and which was his starboard and which his port screw.

LORD MERSEY.—I do not understand that question.

MR. NEWCOMBE.—I mean whether he had a righthand starboard screw or a lefthand starboard screw.

LORD MERSEY.—Can you answer these questions?

By Mr. Newcombe:

757. Q. You have twin screws? Do they both revolve in the same direction?—

A. They both revolve out and when they reverse they revolve in, so that they revolve in and out, opposite directions going ahead and going astern.

By Mr. Aspinall:

758. Q. Captain Kendall, Mr. Haight has asked me to ask you this question. He wants to know when you gave him the time of 1.20 in connection with dropping the pilot, was that the time when you had dropped the pilot and then proceeded on?—A. When I rang full speed ahead.

759. Q. Did you before your ship sailed from Quebec get a letter of that character? (Letter handed to witness.)

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LORD MERSEY.—This is a letter from the owners.

Mr. ASPINALL.—It is a printed form of letter he gets each time he sails.

LORD MERSEY.—You can put it in and that will settle the matter.

By Mr. Aspinall:

760. Q. It has been suggested that some man on board your ship has orders to port and some other man has orders to starboard. Are you the class of officer who would allow that sort of thing to be done?—A. No, Sir.

761. Q. What would you have said to a man who did that?—A. I do not say what I would have said, it is what I would have done.

LORD MERSEY.—Now, Mr. Haight, if you are going to call your witness I should like you to put him at once into the witness box. We may require to recall you, Captain Kendall.

ALFRED SEVERIN GENSEN TOFTENES, Chief Officer, SS. *Storstad*, sworn.

By Mr. Haight:

762. Q. You were the chief officer on the *Storstad*?—A. Yes, sir.

763. Q. How long had you been aboard?—A. About three years and five months.

764. Q. What certificate had you?—A. Master's.

765. Q. You joined in what capacity?—A. Third officer.

766. Q. You then became what?—A. Second, after about six months.

767. Q. You subsequently were promoted to chief officer?—A. Yes, sir.

768. Q. How long had you been Chief Officer before this accident?—A. About five or six weeks.

769. Q. How long have you been going to sea?—A. Since 1895, with the exception of about three years.

770. Q. Were you on the bridge at the time of the collision?—A. Yes, sir.

771. Q. Was it your watch?—A. Yes.

772. Q. When had you gone on watch?—A. Twelve o'clock.

773. Q. Was it your regular watch?—A. From 12 to 4.

By Lord Mersey:

774. Q. I want to be accurate; when you talk about 12 o'clock you mean what time?—A. Sydney time, Intercolonial time.

775. Q. Is that an hour later than Montreal time?—A. An hour ahead, sir.

By Mr. Haight:

776. Q. Who was on the bridge with you?—A. The third officer.

777. Q. Is he regularly on the bridge during your watch?—A. At night, yes.

778. Q. What other men were on duty?—A. A naval seaman at the wheel.

779. Q. Who else was on deck?—A. Two sailors, the lookout and another sailor.

780. Q. At what speed were you running when you approached Metis Point?—A. About 10 knots.

781. Q. That is your full speed?—A. Yes.

782. Q. What was your draught when you left Sydney?—A. Twenty-five and six mean.

783. Q. Do you remember your draught forward and aft?—A. Yes.

784. Q. What was it?—A. 26 aft; 25 forward.

785. Q. You were fully loaded?—A. Yes.

786. Q. How much cargo of coal did you have on board?—A. I could not say exactly to the ton; about 10,400 tons of cargo.

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787. Q. About how far off was Metis Point when you had it abeam?—A. About four miles.

788. Q. At what hour were you abreast of Metis Point?—A. About 1.30.

789. Q. Did you yourself take the time?—A. I could not say that now.

LORD MERSEY.—That means 12.30, does it, Montreal time?

Mr. HAIGHT.—12.30 Montreal time.

CHIEF JUSTICE McLEOD.—The witness is speaking of eastern time all through, is he not?

Mr. HAIGHT.—Yes, Sydney time.

By Mr. Haight:

790. Q. What course did you steer when Metis Point was abeam?—A. West to quarter south.

791. Q. Magnetic?—A. Magnetic.

792. Q. Did you order that course when Metis Point Light was abeam?—A. Yes.

793. Q. How long did you run on that course?—A. For six miles.

794. How did you measure that distance?—A. By patent log.

795. Q. That, then, would show merely your distance run through the water.—A. Through the water.

766. Q. To find your distance over ground you have to make some allowance for current?—A. Yes, sir.

797. Q. You know what the condition of the tide was?—A. About half ebb.

798. Q. What would the actual movement of the water be?—A. About a mile or a mile and a half down.

799. Q. In other words, although the tide was rising and supposed to be flood, the current counteracted it, and there was some current actually down?—A. Yes.

800. Q. After your log showed that you had run through the water six knots on a course west to quarter south, was any change made in your course?—A. I changed quarter of a point.

801. Q. What was the new course that you took?—A. That would be west for south magnetic.

802. Q. How long did you run on that course?—A. Five miles.

803. Q. How did you measure it?—A. By the patent log.

804. Q. Did you make any change in your course then?—A. Yes.

805. Q. What was it?—A. To west by south.

806. Q. When did you first see the *Empress* and what lights were showing then?—A. I saw her about 2.35 or 2.30.

807. Q. When was it with reference to your third change of course to west by south?—A. Somewhere about the same time.

808. Q. Do you remember whether it was before or after?—A. I could not say for sure.

809. Q. At any rate, it was shortly before or shortly after?—A. Close on the same, yes.

810. Q. What light did you first see?—A. The two masthead lights.

811. Q. Did you subsequently see a coloured light on the *Empress*?—A. Yes.

812. Q. What was the first coloured light that showed?—A. A green light.

813. Q. How long did the green light come into view after you had first seen the red light?—A. I could not estimate the time exactly; 7 or 8 minutes, probably less than that.

814. Q. When you first saw the masthead lights could you tell which way they were open?—A. Yes.

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815. Q. Which way were they open?—A. The starboard side.

816. Q. That means that the forward light of the range was to the starboard of the after light, as you looked at them?—A. Yes.

817. Q. If I do not explain it with sufficient nautical clearness, just state what you mean when you say that the *Empress's* ranges were open to starboard?—A. I mean that her lowest light was on my right side.

818. Q. The lowest light showed to the right of the higher light?—A. Yes.

819. Q. Which is the lower-light, the forward or the aft?—A. Forward.

LORD MERSEY.—What does that indicate, Mr. Haight?

MR. HAIGHT.—That means that as he looked at the two range lights, the foremost light being to the right hand side of the after light, she was on a course that would carry her across his bow. He would show a green light when the range was open that way.

By Mr. Haight:

820. Q. How much were her range lights open? That is, were they very nearly shut, fairly well open, or how?

By Lord Mersey:

821. Q. I should very much like to ask the witness a question. Do you remember this?—A. Yes, my Lord, I do remember it, but I could not estimate distances or times exactly.

LORD MERSEY.—This evidence is not of much value, to ask him how much these two lights were open. If you are asking me to believe that he remembers such a thing, you are asking me to believe something that I cannot believe. He does not remember such things; he can say they were open and in what direction but he cannot say how much.

MR. HAIGHT.—He cannot, of course, say with accuracy, but if they were almost in line or fairly well open, he should, perhaps, remember. However, I will not press the question further. (To witness). How far away, as well as you can estimate, was the *Empress* when you first saw her green light?—A. She might have been three miles away, but I would not form an actual estimate of it.

822. Q. And how would the green light bear from you as well as you can recollect when it first came into view?—A. About a point and a half on our port bow.

823. Q. Did you subsequently see any other coloured lights on the *Empress*; if so, what?—A. Yes, after some time she changed her course and I saw her red light, her port light, on my port bow.

824. Q. When she changed her course what first happened?—A. Her range lights came into line, and then her red light came in sight.

825. Q. How far did she swing with reference to the red light? Did the green shut out or did the green continue to show?—A. No, her green light shut out.

826. Q. How far do you think, as near as you can remember, the *Empress* was from you when she swung to starboard, showed both lights and then showed only the red?—A. Oh, she would probably be two miles off; a mile and a half or two miles.

By Lord Mersey:

827. Q. What in your opinion was she doing?—A. Changing her course so as to clear us.

828. Q. How did you suppose she was going to clear you?—A. She was, so far as I could see then, just keeping on my port side, going clear on my port side.

829. Q. Then she intended, according to your opinion, to pass you port to port?—A. Yes, My Lord.

830. Q. Is it your view that she was laying her course so as to pass you port to port?—A. Yes, My Lord.

831. Q. That is what you thought?—A. Yes.

By Mr. Haight:

832. Q. When you saw the red light only of the *Empress*, what light were you showing to her?—A. Two masthead lights and my red light.

833. Q. How much was she on your port bow then?—A. About a point or a point and a half.

834. Q. Were they in your judgment in a position such that if the two courses were maintained, the vessels would pass with ample room?—A. They would.

835. Q. How long did you continue to see the red light of the *Empress*?—A. Two or three minutes.

836. Q. Then what happened?—A. Fog shut her in.

837. Q. Which steamer was enveloped in the fog first, you or the *Empress*?—A. *Empress*.

838. Q. When the fog enveloped the *Empress*, did you hear any whistle from her? A. Yes.

839. Q. What did she blow?—A. One long blast.

840. Q. Are you sure of that?

LORD MERSEY.—Are you?

Mr. HAIGHT.—Yes, My Lord; I want to see if the witness is.

The WITNESS.—Yes, I am sure of it.

By Mr. Haight:

841. Q. The Master of the *Empress* has stated that he never blew a signal of one whistle. Does that change your recollection of it or refresh it?—A. Not a bit.

842. Q. When the fog enveloped the *Empress*, did you give any order?—A. I slowed my engines, slow speed.

843. Q. Did you blow any whistle after he blew his long blast?—A. Yes, I blew one long blast.

844. Q. When you slowed the *Empress* was out of sight in the fog; she had been shut out?—A. Yes, she had been shut out.

845. Q. What was the next order you gave to your engines, if any?—A. Stop.

846. Q. When did you give that?—A. One or two minutes after the 'slow' order.

847. Q. Why did you give it?—A. Because I knew there was a ship in the vicinity, and the fog was coming out.

848. Q. Had the fog enveloped you when you gave your stop order?—A. No.

By Lord Mersey:

849. Q. Will you tell me again why you gave the 'stop' order?—A. The *Empress* was blowing in the fog, blowing her fog signals, and I could see the fog was coming out from the land and would eventually envelop us, and so I would not have too much speed or headway on my ship.

By Mr. Haight:

850. Q. About what speed does the *Storstad* make when she is running slowly?—A. About five miles.

851. Q. And according to your recollection she would run slow in about two minutes?—A. Two minutes.

852. Q. What whistles did you hear from the *Empress* after you had rung your telegraph to stop your engines?—A. Three short blasts.

853. Q. How did the whistles bear from you, as well as you can estimate it? Could you tell whether they were starboard, port or ahead?—A. I could tell they were on the port side; I would not say exactly to a point.

854. Q. What signal did you blow, if any, after that?—A. We might have blown several single blasts after that; I could not say how many; I did not count them.

855. Q. Can you recollect how many signals you heard blown by the *Empress* TOFTENES.

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after you heard her first signal of three whistles?—A. I could not say for certain.

856. Q. You heard her blow three more than once?—A. Yes.

857. But you are not sure how many times?—A. No, I am not sure how many.

858. Q. Do you remember whether he was blowing a long signal of two whistles?—A. I do not.

By Sir Adolphe Routhier:

859. Q. You understood the meaning of the three short blasts; what was it?—A. That her engines were going astern.

By Mr. Haight:

860. Q. After you had rung your telegraph for 'stop,' what was the next order that you gave with reference to your steering or your engines?—A. Some minutes afterwards I gave an order to the man at the wheel to port a little.

861. Q. How long had your engines been stopped, do you think, when you gave that order?—A. Four minutes, probably; four or five minutes.

862. Q. What happened?—A. The ship would not answer her helm.

863. Q. The last whistle which you had heard from the *Empress*; how did it bear from you, starboard or port?—A. On the port side.

864. Q. Why did you order your wheel ported?—A. Because the ship being stopped so long, I was afraid of her losing headway so much that she might take a sheer on the current.

By Lord Mersey:

865. Q. You must explain that.

Mr. HAIGHT.—I understand he was afraid that the engines being still so long, he would lose steerage way and become so nearly stationary that his vessel's head might be deflected by the current and sheer one way or the other. (To witness): When you gave the order to port, what happened? Did she swing to starboard?—A No, she didn't swing.

By Lord Mersey:

866. Q. She did not answer at all?—A. No.

By Mr. Haight:

867. Q. How much was your wheel put over?—A. I don't know if it came hard over, but it came almost so.

868. Q. Do you know whether the first officer was at the wheel at that time?—A. He was standing by the binnacle, close to it.

By Lord Mersey:

869. Q. Was it put hard-a-port?—A. I do not know, my Lord, if it was hard.

By Mr. Haight:

870. Q. You were standing where at that time?—A. By the port side of the engine telegraph.

By Chief Justice McLeod:

871. Q. She did not answer the helm?—A. No.

872. Q. How do you account for that?—A. That she had lost her headway.

By Mr. Haight:

873. Q. After you had ordered your wheel to port and you found that she would not swing to starboard, what order, if any, did you give as to the blowing of a whistle, or did you give any?—A. I did.

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874. Q. What order was it?—A. To blow two long blasts.

875. Q. Were the two long blasts sounded?—A. Yes, they were.

876. Q. Did you then give any order to your engines?—A. Yes.

877. Q. What was it?—A. Slow ahead.

878. Q. Why did you give slow ahead?—A. In order to keep the ship in the same direction.

Lord Mersey:

879. Q. What did the two long blasts mean?

Mr. HAIGHT.—My vessel is not under steering way, she is practically dead in the water.

LORD MERSEY.—Immediately after giving the order, he ordered his engines——

Mr. HAIGHT.—Slow ahead.

LORD MERSEY.—What would the effect of that order be?

Mr. HAIGHT.—To start the *Storstad* slow ahead.

LORD MERSEY.—Then that would be an order that would contradict the two blast signals; I mean to say the two blast signals and the order slow ahead are inconsistent.

Mr. HAIGHT.—The two-blast signal is blown at a time when it tells us the exact truth.

LORD MERSEY.—But immediately afterward, it does not tell the exact truth.

Mr. HAIGHT.—I understand that the position is to indicate what your precise physical condition is when it is blown, rather than how long you are going to maintain it. (To Witness) Why did you order your engine slow ahead?—A. I was afraid my ship would swing broadside on the channel.

880. Q. You mean swing to port?—A. Swing anyway.

881. Q. One way or the other?—A. Yes.

882. Q. Up to the time that you had ordered your wheel to port and she would not swing, what was your course magnetic?—A. West by south.

883. Q. Are you sure that that course had been maintained from the time it had been first taken?—A. I am.

884. Q. Did you yourself look at the compass?—A. I did, at the time when the helmsman was put over to port.

885. Q. And it was then reading west by south magnetic?—A. West by south.

886. Q. What is the variation of your compass?—A. The deviation, you mean?

887. Q. The deviation?—A. About half a point.

888. Q. It actually read by your compass—A. West by south for south.

889. Q. After you had started your engines slow ahead, did you have any communication with the Captain?—A. About the same time I spoke down to the Captain through the speaking tube.

890. Q. What did you say to him?—A. I told him we were about six miles off Father Point and that it was getting thick.

891. Q. Did you say anything about a vessel in the vicinity?—A. I did not.

892. Q. Did you consider that there was any danger of collision then?—A. I did not.

893. Q. Had you heard up to that time any whistle from anybody on your starboard side?—A. No.

894. Q. Had you seen any vessel on your starboard side?—A. No.

895. Q. What answer did the captain make?—A. He said: All right, I will go up.

896. Q. Did he come up?—A. He did.

897. Q. What was the first thing he did when he came up?—A. I do not know.

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998. Q. Did he come up amidships?—A. He came up on the starboard side.
999. Q. Do you know which way he went?—A. I could not say; I did not see him.
900. Q. After you had blown your signal of two whistles did you hear any further whistle from the *Empress*?—A. I heard three short blasts just before we saw her lights.
901. Q. Where was the captain when you heard that last signal of three blasts?—A. By the engine room telegraph.
902. Q. And what next did you see or hear from the *Empress*?—A. I saw her masthead lights.
903. Q. Where did it bear from you?—A. About three points on my port bow.
904. Q. What was the next light you saw?—A. The green side light.
905. Q. Can you form any judgment as to how far off that masthead light was when you first saw it?—A. I could not.
906. Q. In the knowledge of your boat, could you approximate it; one length or two lengths or half a length? Could you give any idea at all?—A. Between one and two lengths, I should say.
907. Q. Which way was the *Empress* moving, if she was moving at all?—A. She was moving forward.
908. Q. How fast do you think she was moving?—A. I would not like to say any speed, but she was moving fast.
909. Q. How did her speed compare with yours, as well as you could judge it?—A. She would be moving faster than us.
910. Q. Were you on the bridge when the vessels came together?—A. I was.
911. Q. Under your order to put your engines ahead, how long were they turning slow ahead, do you think, before you heard the last signal and saw the *Empress*?—A. It might have been a half a minute.
912. Q. And when the *Empress*' light first showed up was any order given to the engine room?—A. The engines were put full speed astern.
913. Q. Who executed that order?—A. The captain.
914. Q. He rang the telephone himself?—A. Yes.
915. Q. What was the next order to your engines?—A. I do not know that.
916. Q. Did you hear any call from the *Empress*?—A. I did.
917. Q. What was it?—A. Don't go astern.
918. Q. Was any answer given to that?—A. The captain answered: I am going full speed ahead.
919. Q. Was that just before or just after the vessels came in contact?—A. Just after the crash.
920. Q. Will you please indicate by the models the relative position of the two vessels when they actually came in contact?
- (The Witness then marked on paper the point of collision of the two steamers as shown by the models, and the paper was handed to the Court.)

By Mr. Haight:

921. Q. About how long do you think your engines were going full speed astern before the vessels actually came together?—A. A couple of minutes.
922. Q. I understand you to say that the steamers were about a length and a half away. The length of your boat is what?—A. The distance would be about 600 feet.
923. Q. Would you reverse two minutes before you came together if you were so short a distance away?—A. It might have been less; I could not say the exact time.
924. Q. When your engines were put full speed astern after you saw the light of the *Empress* about 600 or 700 feet away, what was the heading of the *Storstad*?—A. West by south magnetic.

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925. Q. Do you think that under your reversed engines your heading was changed materially before you came together? If so, how much?—A. It might have changed up to quarter or half a point, but no more.

926. Q. Had the telegraph been rung full speed ahead after the vessel touched while you were still on the bridge?—A. The telegraph was rung, but what was rung on it I cannot say.

927. Q. The captain had ordered full speed?—A. Yes.

928. Q. Where did you go and what did you do?—A. I went off the bridge and went forward to see what the damage was.

929. Q. To what point forward did you go?—A. To make sure whether we were going to float or sink.

930. Q. Did you go clear up on the forecastle head or did you go up between the hatches, or where did you stop?—A. I went as far as I could forward, over one of the hatches.

By Lord Mersey:

931. Q. What damage did you want to see, damage to your own boat or damage to the *Empress*?—A. The damage to my own boat.

By Mr. Haight:

932. Q. Were you ordered forward to examine your damage and sound your ship?—A. I do not know, I did not hear such an order.

933. Q. You went anyhow?—A. Yes.

934. Q. What soundings did you take?—A. No. 1 hold.

935. Q. Did you sound the peak?—A. It was not worth while; it was all in pieces.

By Lord Mersey:

936. Q. Was the damage below the water line?—A. I couldn't say that; I think it would be.

By Mr. Haight:

937. Q. No. 1 hold remained dry?—A. Yes.

938. Q. When you got on to the forward deck, did you notice the relative position of the two steamers then?—A. Yes.

939. Q. Had your position changed in reference to the *Empress*?—A. Yes, a great deal.

940. Q. How had it changed?—A. They were turned almost parallel to one another, heading the same way.

941. Q. And had that change in the relative position been due to the change in your heading, or was it the change in the heading of the *Empress*?—A. I do not know, but I should say to both.

942. Q. Do you know whether your bow was swung to starboard?—A. I do not know.

943. Q. By the time you got forward the vessels were heading in approximately the same direction?—A. They were.

944. Q. How did they separate?—A. They separated about in the same direction; the *Empress* went ahead of us.

945. Q. How was her starboard quarter with reference to your port bow as the boats separated?—A. Her starboard side was slid along our port bow for some time.

946. Q. Did you see any part of the *Empress* as the boats separated? From your position on the forward deck near No. 1 hatch, what did you see last of the *Empress* as she went off in the fog?—A. I saw the after part of the hull.

947. Q. Starboard quarter, port quarter or stern?—A. Starboard quarter and stern.

948. Q. Could you see any quick water under her stern?—A. I could.

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By Chief Justice McLeod:

949. Q. You saw the damage done to the *Empress*, did you?—A. No, I did not see the damage done.

By Mr. Haight:

950. Q. By the time you got forward, had your bow come out from the wound in the *Empress*?—A. No, I do not believe it had. It had not come out.

951. Q. How did it happen that you did not get a look at the *Empress* side?—Was there time?—A. There was not time: I would not get too near.

By Lord Mersey:

952. Q. You were concerned looking after your own engines?—A. My own ship, yes.

By Mr. Haight:

953. Q. Captain Kendall has testified that as the vessels came together he was absolutely dead in the water and that in his judgment the *Storstad* pierced his side and immediately backed away. From what you saw immediately before and immediately after the collision, what, in your judgment, is the reason why the vessels did not stay together, if your captain, as you have stated, had ordered his engines full speed ahead?—A. The speed of the *Empress* drew the ships apart.

954. Q. How far could you see the *Empress* away from you as she disappeared in the fog? Could you form any judgment of the distance; whether it was the same as when you had first seen her?—A. I could not say anything about that. As soon as she was clear of our bow I left her, I went aft again.

955. Q. Where did you go?—A. On the boat deck.

956. Q. What was being done on the boat deck?—A. Boats were swung out.

957. Q. Had they been swung out when you got there?—A. Yes.

958. Q. How many boats did you have?—A. Four.

959. Q. What was their total capacity?—A. I do not know.

960. Q. There were three life boats and a gig?—A. Yes.

961. Q. And how many people would the life boats carry?—A. About 30 in each.

962. Q. And the gig, about how many?—A. About 15.

963. Q. What was the total of your crew?—A. 36.

964. Q. Were you able to see the *Empress* when you got back on the boat deck?—A. No.

965. Q. Do you know what was being done with your engines when you came out on the bridge and went to the boat deck?—A. I do not.

966. Q. What was subsequently done to get track of the *Empress* and to render service to the people on board? Did you blow any whistles?—A. I heard a whistle blow from our ship.

967. Q. Did you receive any answer?—A. Not that I heard.

968. Q. How did you first locate the *Empress*?—A. We heard the cries from the people in the water.

969. Q. Whereabouts did the cries bear from you? Which side?—A. On the port side, about abeam, or forward of the beam.

970. Q. How did you manoeuvre your vessel in order to be near them?—A. I do not know that.

971. Q. Where were you when the *Storstad* was being manoeuvred into position, forward or aft?—A. I was forward once, and then I came aft.

972. Q. How close did you take the *Storstad* to be to the *Empress*? Could you see her?—A. No, I did not see her.

973. Q. When did you first see her?—A. I do not think I did see her after the collision; if I did it was when she sank.

974. Q. Did you go out in any of the boats?—A. No.

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975. Q. How many of your boats were launched?—A. Four.

976. Q. Who commanded them?—A. The second officer had one.

By Lord Mersey:

977. Q. That would be all of them?—A. That would be all.

By Mr. Haight:

978. Q. How many trips did your boats make?—A. They all made two trips and one of them made three; I do not know if the others had more than two.

979. Q. How many people approximately were brought to the *Storstad* by your four boats? How full were your boats, do you remember?—A. I could not say.

980. Q. Did any of your boats make more than two trips do you know?—A. One made three; I do not know if the rest did.

981. Q. Did any of your men man any of the *Empress* boats?—A. They did.

982. Q. How did that happen?—A. The first of the *Empress* boats that got alongside, there was somebody, a man in charge, whoever it was, I do not know, who asked if we had a fresh crew to give him and he got three men.

983.—Q. Was his boat empty then when he asked for a crew?—A. He asked for that as soon as he came alongside.

984. Q. How many men did you put into that boat?—A. Eight.

985. Q. Did you man any other boat?—A. Yes.

986. Q. How many men did you put into that?—A. Five.

987. Q. How did that happen?—A. When they came alongside with the boat they would not go out with it again.

988. Q. Did they all leave the boat?—A. They all left the boat.

By Lord Mersey:

999. Q. Who left the boat?—A. The crew from the *Empress* that brought the boat alongside.

By Chief Justice McLeod:

1000. Q. These boats belonged to the *Empress*?—A. Yes.

By Lord Mersey:

1001. Q. Did they go on the *Storstad*?—A. Yes.

1002. Q. And then the boat was left alongside the *Storstad*?—A. Yes.

1003. Q. Do you mean to say that they refused to go out from the *Storstad* again in that boat?—A. They did.

1004. Q. Why?—A. They said the boat was too heavy for them.

1005. Q. Did they say that the boat was so heavy that they could not conveniently pull it?—A. They said so.

1006. Q. What did you think of that?—A. I did not know what to think of that.

1007. Q. What do you think now?—A. I do not think it was too heavy.

By Mr. Haight:

1008. Q. Did your men make a trip in that same boat?—A. Two.

1009. Q. How many people did they bring back alive?—A. I do not know, but there were 30 or 40, I believe.

1010. Q. Had the boat living people on both trips?—A. I do not know what they had the last trip—if they had any living.

1011. Q. At least your men had no difficulty in rowing the boat?—A. Not a bit.

1012. Q. Had you ordered the crew into the boat from the *Empress*?—A. Yes.

1013. Q. What kind of lights have you; are they oil or electric?—A. Electric lights.

1014. Q. What is the power of the masthead light?—A. The lamps are 32 candle power.

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1015. Q. How far can these lights be seen from the mastheads in clear weather?
—A. Eight or ten miles.

1016. Q. How are your side lights, oil or electric?—A. Electric.

1017. Q. How far will they show in clear weather?—A. Four or five miles.

1018. Q. When the *Storstad* was manoeuvring to get up close to the *Empress* was there anybody astern on the boat to indicate to the Captain how far he could safely back up?—A. Yes, I was.

1019. Q. What information did you give him, if any, from the stern?—A. I sang out several times that I thought he was as near as he dared go.

1020. Q. You thought you were getting as close as you could go?—A. The *Empress* had sunk and I did not know exactly where.

1021. Q. Could you hear people closely?—A. I not only heard them but I could see them.

1022. Q. You were afraid of going into the people with the propellor and you backed no further?—A. Yes.

1023. Q. Captain Kendall has given the impression that you backed away about a mile from them. Are you able to form any judgment as to how far away you were when the vessel was sinking? Did you see any lights?—A. —

LORD MERSEY.—He never saw any vessel after she struck.

The WITNESS.—No.

(Mr. George Simpson was sworn as Official Reporter).

The Commission adjourned at 5.15 to meet at 10 a.m. Wednesday, June 17.

SECOND DAY.

QUEBEC, WEDNESDAY, June 17, 1914.

The Commissioners appointed by the Honourable John Douglas Hazen, the Minister of Marine and Fisheries of Canada, under Part X of the Canada Shipping Act as amended, to enquire into a casualty to the British Steamship *Empress of Ireland*, in which the said steamship belonging to the Canadian Pacific Railway Company was sunk in collision with the Norwegian Steamship *Storstad*, in the River St. Lawrence on the morning of Friday the 29th day of May, 1914, met at Quebec this morning, the seventeenth day of June, 1914.

ALFRED SEVERIN GENSEN TOFTENES, cross-examined.

By Mr. Aspinall:

1024. Q. Mr. Toftenes, you told us yesterday that you held a master's certificate?
—A. Yes, sir.

1025. How long have you held that?—A. About seven years.

1026. Q. How old are you?—A. Thirty-three.

1027. Q. On the bridge of the *Storstad* with you was the third officer?—A. Yes, sir.

1028. Q. Does he hold a certificate?—A. Yes, sir.

1029. Q. What certificate does he hold?—A. A Norwegian mate's certificate.

1030. Q. The *Storstad* was under charter, was she not, to the Dominion Coal Company?—A. She was.

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1031. Q. And under that charter was her business thus to carry coals from Sydney to Montreal?—A. It was.

1032. Q. Discharge the coals at Montreal, turn around and proceed back in ballast to Sydney?—A. Just so.

1033. Q. On arriving at Montreal do you work during the night in order to discharge her?—A. Yes, sir.

1034. Q. Time is of importance, is it not?—A. It seems to be.

1035. Q. Do you, or, to your knowledge, does the master of the *Storstad* get a bonus if he performs this round voyage with quickness?—A. Not that I know of.

1036. Q. Are you sure?—A. I do not know.

By Lord Mersey:

1037. Q. What have you to tell us about it?—A. I do not know that he gets any bonus for making quick passages.

By Mr. Aspinall:

1038. Q. You smiled a moment ago; I do not know whether you meant anything by that smile?—A. No.

MR. ASPINALL.—However, we will see the master and he can tell us.

LORD MERSEY.—Does he get a bonus, Mr. Haight?

MR. HAIGHT.—I have not the least idea. I know the speed of the ship and I have no doubt he moves as fast as he can in fair weather.

LORD MERSEY.—Does he get a bonus?

MR. HAIGHT.—I have not the least idea.

LORD MERSEY.—Cannot you ask the captain now?

MR. HAIGHT.—I think I can ask the captain. Captain Anderson, do you get a bonus to make a quick run on the *Storstad*?

Captain ANDERSON.—No.

MR. HAIGHT.—What is your gratuity per month?

Captain ANDERSON.—I have not been on the *Storstad* before—

LORD MERSEY.—That is enough; we will get that later.

By Mr. Aspinall:

1039. Q. Then the collision happened at three o'clock in the morning?—A. (The witness) About three o'clock.

By Chief Justice McLeod:

1040. Q. You mean Sydney time?—A. Sydney time.

By Mr. Aspinall:

1041. Q. Is it the fact that your vessel struck fog at 1.30?—A. No, we did not.

Chief Justice McLEOD.—When you are speaking of time, will you make it clear whether you are speaking of Sydney or Montreal time?

MR. ASPINALL.—Yes. It is a little difficult; I have the documents before me in connection with the navigation of the ship, and it is upon them that I was founding my question. (To the witness) Is it the fact that your ship was enveloped in fog for about one and a half hours before the collision happened?—A. No, it is not.

1042. Q. No foundation for that suggestion of mine?—A. No.

1043. Q. I suggest to you that an hour and a half before this collision you were in fog and as you proceeded up the river the fog was getting worse?—A. We were not in fog.

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1044. Q. At about, I think you told us, 2.30 you first saw the masthead lights of the *Empress of Ireland*?

Lord MERSEY.—To make that clear, was it Montreal time or Sydney time?

By Mr. Aspinall:

1045. Q. Was your ship travelling by Sydney time?—A. By Sydney time.

By Chief Justice McLeod:

1046. Q. Are you speaking of Sydney time or Montreal time?—A. Sydney time.

By Mr. Aspinall:

1047. Q. According to Sydney time, was it about 2.30 when you saw the masthead lights of the *Empress of Ireland*?—A. About 2.30 or a little later.

1048. Q. About half an hour before the collision?—A. —

1049. Q. At what distance were these two lights from you?—A. They would be six miles probably.

1050. Q. And about how were they bearing from you?—A. About a point and a half on my port bow.

1051. Q. And she was on a course crossing yours?—A. Yes.

1052. Q. And she was, as I dare say you know, travelling a great deal faster than you?—A. I could not say that then.

1053. Q. But you know, and I think we are all agreed that that is the fact?—A. Yes.

1054. Q. I might tell you that according to her evidence she was travelling at 17 and you were travelling at about 10.—A. We was.

1056. Q. She proceeded on for how long before you saw her commence to alter her course?—A. About a quarter of an hour.

1057. Q. In a quarter of an hour, if that is the rate she was travelling at—one quarter of 17 miles—would she not pass over four miles?—A. Yes.

1058. Q. Do you not think she had got on your starboard bow?—A. Will you repeat that?

1059. Did you not hear my question?—A. Not exactly.

By Sir Adolphe Routhier:

1060. Q. Repeat your answer.—A. I made no answer, but I asked to repeat the question.

By Mr. Aspinall:

1061. If she was 1½ points on your port bow, six miles away, travelling at 17 knots to your 10, I suggest to you that in a quarter of an hour she would have got across on your starboard bow.—A. She did not.

Lord MERSEY.—Never mind whether she did or did not, but try to answer the question.

By Mr. Aspinall:

1062. Q. In that quarter of an hour she would travel over four miles at her speed, would she not?—A. Yes.

1063. Q. At any rate, according to your case, at the end of these fifteen minutes, where was she?—A. She was about a point on my port bow.

1064. Q. You have been going on the same course?—A. Yes.

1065. Q. And at the end of a quarter of an hour this other ship travelling seven knots faster than you has only narrowed half a point; do you seriously mean that?—A. That is the fact.

Lord MERSEY.—I do not know whether you have a board of any kind to show the positions of these vessels so that we may have them before our eyes.

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Mr. ASPINALL.—We will have one sent for.

Lord MERSEY.—I would like you to illustrate before the eyes of this witness what it is you suggest. It will help me very much and I think it will help my colleagues too.

By Mr. Aspinall:

1066. Q. Mr. Toftenes, I am going to get a board with a compass in the middle and I will be able to explain to you what I mean. Do you understand what I mean?—A. Yes, I understand perfectly.

1067. Q. As a sailor you appreciate the meaning of my question?—A. Yes, sir, I understand it.

1068. Q. At the end of this quarter of an hour, she having narrowed to one point on your port bow, at what distance was she from you then?—A. I could not estimate no distance.

1069. Q. Why not—you have a master's certificate?—A. I could not estimate the distance exactly.

1070. Q. Not exactly, but about what distance was she from you when you saw her begin to alter her course?—A. I should say about three miles.

1071. Q. Then she alters course, according to your story and shows red on your port bow?—A. She did.

1072. Q. Am I right in saying that up to this time there has been no risk of collision?—A. There was not to my mind.

1073. Q. I only ask you that in order to get rid of any consideration of Article 19 of the Regulations. May I remind your Lordship of that? It is one of the questions submitted to the court to deal with. Article 19 is as follows:—

“When two steam vessels are crossing, so as to involve risk of collision, the vessel which has the other on her starboard side shall keep out of the way of the other.”

This gentleman agrees with me in my suggestion that there was no risk of collision up to the time that they got red to red. Therefore, it seems absolutely immaterial to further trouble with that article, and I may pass away from it. (To the witness) That being so, the two steamers proceed on red to red according to your story and as you told us yesterday you thought that the other steamer altered course and intended to pass you port to port?—A. That is what I thought.

1074. Q. You thought she was intending to pass you port to port and you proposed to pass her port to port?—A. I did.

1075. Q. According to you, after a little time, fog came on?—A. It did.

1076. Q. And you lost this vessel in the fog?—A. Yes.

1077. Q. What you had in mind was that, having lost her in the fog, she was intending to pass you port to port?—A. That is what I thought.

1078. Q. And you were wishful to pass her port to port?—A. I was

1079. Q. After she had entered the fog you heard her blow one long blast?—A. I did.

1080. Q. I may tell you this that, according to her evidence—it may be incorrect—but it is well you should know, she says that she never blew one long blast. Are you sure you heard it?—A. I am.

1081. Q. You are certain?—A. Certainly.

Lord MERSEY.—Will you say what you mean by one long blast—signalling what?

Mr. ASPINALL.—One long blast is the proper signal for a vessel to sound when under way in a fog.

Chief Justice MCLEOD.—In these rules it will be explained.

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Mr. ASPINALL.—Yes, it is Article 15. It is headed ‘Sound Signals for Fog.’

All signals prescribed by this Article for vessels under way shall be given——

And then it provides that a steam vessel is to be equipped with an efficient whistle or siren. Article 9 is the important one:

A steam vessel having way upon her shall sound at intervals of not more than two minutes a prolonged blast.

1082. Q. (To witness). You, of course, know that?—A. Yes.

1083. Q. Your evidence is that you heard her blow a long blast?—A. I did.

1084. Q. According to you, on your port bow. At the time when she became enveloped in fog were you still travelling at your full speed?—A. I rang my engines slow when I heard a blow of one blast from the other.

1085. In other words, you lost her in the fog, you heard a long blast from her and then you rang your engines at slow?—A. I slowed before I heard her blow as soon as I lost her lights.

1086. Q. Is the last answer the right one?—A. The last answer is the right one.

1087. Q. When you lost her in the fog you slowed?—A. Yes.

1088. Q. Am I right in saying that having heard that long blast from her almost immediately afterwards you heard her blow three short blasts?—A. A little while after.

1089. Q. Not long?—A. Not long.

1090. Q. That would be a signal from the *Empress* that ‘I am reversing my engines’?—A. Yes.

1091. Q. After that did you blow several blasts on your whistle?—A. I do not know how many we blew, we blew the regular fog signals.

1092. Q. How many minutes elapsed from that time before you heard the second three blasts from the *Empress*?—A. I could not say that.

1093. Q. Was it a substantial time; was it about five minutes or so?—A. It could not be that.

1094. Q. How long was it?—A. It would be one or two minutes.

By Sir Adolphe Routhier:

1095. Q. What was your speed when you heard the three blasts?—A. The engines were going slow; they were stopped just then.

By Mr. Aspinall:

1096. Q. They were going slow?—A. They were going slow and then they were stopped.

1097. Q. Before that?—A. Before we heard her blow three blasts.

1098. Q. And you went on at slow speed?—A. With the engines stopped.

1099. Q. Would not a laden ship when you slow and then stop the engines carry way at full speed for some time before she ran down to slow?—A. We would carry some speed—yes.

1100. Q. But the mere fact that you had put your engines slow does not bring the speed of your vessel to slow at once?—A. Not at once.

1101. Q. It takes some little time.—A. —————

By Sir Adolphe Routhier:

1102. Q. Then you understood that the *Empress* was going full speed astern?—A. I did.

1103. Q. And you did not think of doing the same?—A. I did not.

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By Mr. Aspinall:

1104. Q. You ordered the helm a-port and then put it very nearly—I think you said—hard-a-port?—A. I did.

1105. Q. If you had got headway upon you at this time the effect of that would be to take your head to starboard would it not?—A. It would.

1106. Q. You were wishful that your head should go to starboard?—A. I was not.

By Lord Mersey:

1107. Q. You did not wish it?—A. No.

1108. Q. Then why did you do it?—A. Because I knew the current was against us and I did not wish the ship to swing to port.

By Mr. Aspinall:

1109. Q. Are you sure that is the correct explanation?—A. That is what I meant by it.

1110. Q. Because you heard the *Empress*—I dare say you heard her?—A. I did.

1111. Q. You twice heard her blow three short blasts?—A. I do not know how many times I heard her.

1112. Q. I am not claiming more than two of the three. But you did at least hear her blow three short blasts?—A. Yes, I heard her blow twice.

1113. Q. The effect of that ought to be to take her headway off, ought it not?—A. Yes, it would.

1114. Q. She is a twin-screw boat and has powerful engines. She says that she has taken her headway off?—A. Yes.

1115. Q. If she had not used her helm, and the cause of this trouble was that you did use your helm, and this was a port helm. That is putting the case simply. You heard her sound three short blasts twice and you put your helm nearly hard-a-port?—A. I did put the helm a-port.

1116. Q. Nearly hard-a-port?—A. Nearly hard-a-port.

1117. Q. Is it a fact that your head did go to starboard just before this collision happened?—A. It did not.

Lord MERSEY.—Put that question again.

By Mr. Aspinall:

1118. Q. Is it not a fact that in consequence of your helm being to port and nearly hard-a-port, your head did go to starboard and that is how this collision occurred?—A. It did not.

By Lord Mersey:

1119. Q. I do not know what 'did not' means. Do you mean to say that it did not bring about the collision.—A. It did not make the ship swing to starboard.

By Mr. Aspinall:

1120. Q. Notwithstanding that you put your helm hard-a-port? That was the object of putting your helm hard-a-port?—A. No.

1121. Q. What was the object?—A. The object was to prevent the ship sheering to port.

By Chief Justice McLeod:

1122. Q. Had the current the effect of sending her to port?—A. It might.

1123. Q. Did it?—A. It gave so much that the ship did not answer the port helm.

By Mr. Aspinall:

1124. Q. This is a remarkable current, is it not, that you are telling about?—A. I do not know.

1125. Q. Let us see about the current. The current that you are in is acting on the whole ship?—A. It is.

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1126. Q. Why should it send your head one way rather than your stern? Suppose this is your ship (illustrating by holding a book up in view of the witness) and suppose the current is passing from me to you; the current will probably take the ship to you. Why should it affect that part (indicating) more than that part (indicating)?—A. It sometimes does if the ship has no way on her.

1127. Q. Does it often?—A. Often, yes.

1128. Q. But not to cause you any trouble?—A. It does if the ship has no way on her.

1129. Q. I think we will be agreed about this that if a part of your ship is in comparatively slow water and the other part in current, the current will affect that part of the ship which is in the current. That is right, is it not?—A. Yes, that is right.

1130. Q. But when the whole of your ship is in the one current there is no need for alarm that it should affect your heading, is there?—A. There is not so much though the ship will swing if she has no steering way on her.

1131. Q. At any rate the current is your point?—A. Yes, the current.

1132. Q. Did you ever hear the *Empress* blow two long blasts?—A. I did not.

1133. Q. She has sworn that she blew two long blasts; you never heard that?—I did not.

1134. Q. That would mean that she was stopped in the water?—A. It would.

1135. Q. You, finding that you had no headway, and finding that your helm was not acting, told us yesterday that you put your engines ahead. Do you remember?—A. Yes.

1136. Q. And you were in pretty close quarters to the *Empress* at that time, were you not?—A. I would be.

1137. Q. Did not your nearly hard-a-port helm answer then?—A. It did not.

1138. Q. When you put your engines ahead with your helm hard-a-port did you expect your ship would answer that hard-a-port helm?—A. It would.

1139. Q. Did you expect it would?—A. I did expect it would.

1140. Q. You knew your own ship, of course?—A. Yes.

1141. Q. Why did it not answer under these circumstances?—A. Because the engine was not working so long ahead that the ship got any headway under it.

1142. Q. There again you had a disappointment?—A. I had.

1143. Q. What is the next thing that happened after that? Did you almost immediately after putting your engines ahead see the lights of the *Empress*?—A. Almost immediately.

1144. Q. Did they come as a surprise to you?—A. In the direction they came, yes.

1145. Q. They were upon your port bow?—A. Yes.

1146. Q. If, in fact, you had your helm hard-a-port and your head going starboard would you not expect to find the *Empress* close to your port bow?—A. Yes, but my head did not swing to starboard.

1147. Q. If your helm had answered and your head had gone to starboard then you would have expected to find the *Empress* upon port bow?—A. I would.

1148. Q. Do you not think that is really what happened in this case, that if you had any speed at all and you put your helm hard-a-port that would bring the *Empress* close to your port bow?—A. I do not get your meaning.

1149. Q. Do you not think that is really what did happen, that your boat having a certain amount of way on her when you put your helm to port, your head swung to starboard towards the *Empress*?—A. No, it did not.

1150. Q. If I were to give you two models could you put your ship on a bit of paper and the *Empress* at the time she came in sight of you?—A. Approximately.

1151. Q. Have you done it before?—A. Yes, I have.

1152. Q. I thought you might. Probably you will be able to do it again?—A. Approximately.

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1153. Q. Probably correctly. How many times have you had this rehearsal?—A. I do not know.

1154. Q. You just do it for me and you will probably do it quite right now. (Two models and a sheet of paper were handed to witness, who marked a diagram upon the paper. Diagram put in and marked Exhibit 'G.')

By Mr. Aspinall:

1155. Q. Which is which?—A. The large one is the *Empress*.

LORD MERSEY.—At what time is this?

By Mr. Aspinall:

1156. Q. That is the time when you saw the *Empress* come out of the fog?—A. Yes.

1157. Q. You were a stationary ship then?—A. Probably not quite.

LORD MERSEY.—I thought you said you were stationary.

By Mr. Aspinall:

1158. Q. How much way are you willing to give me?—A. My engines were going ahead slow.

1159. Q. What headway are you going to give yourself at this time?—A. Probably a mile or a mile and a half.

1160. Q. If you were travelling a mile, what sort of speed do you think the *Empress* was travelling at this time?—A. To estimate the speed in such a moment is very hard.

By Lord Mersey:

1161. Q. I am getting old and I cannot hear what you say. Speak as loud as if you were on the bridge?—A. I cannot estimate what speed she was going.

1162. Q. Give us some idea?—A. I should say about 8 or 10 miles.

By Mr. Aspinall:

1163. Do you seriously mean that?—A. I do.

1164. Q. If she is travelling 8 to 10 miles and you are travelling one—I have not got the sketch before me but I think I have it in mind—would not she have got across your bows or would you have ever touched her?—A. It depends on how far she was off.

1165. Q. How far was she off?—A. That I could not estimate; I could not estimate no distance.

1166. Q. Why have you any difficulty now about distance and speeds? I only want your approximate idea?—A. It is impossible to estimate a distance in such a case.

1167. Q. Yes, you gave us the distance when you were being examined by this gentleman (indicating Mr. Haight)?—A. I gave the distance about one or two ship lengths.

1168. Q. The ship length being in your mind was—?—A. My own ship, 450 feet.

1169. Q. That is a minimum of 450 feet and a maximum of 900 feet?—A. It might be more than that.

1170. Q. If it was more than that then you were for all practical purposes stationary, going one knot an hour, and the other ship travelling 8 to 10 miles an hour, while the collision was brought about. Will you just look at the picture again?—A. That is only approximate.

1171. Q. I quite recognize that but you are the man on the spot.—A. It looks as if she would pass.

Q. That is what occurred to me.

TOFTENES.

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By Lord Mersey:

1172. Q. From the statements you have made and the pictures you have drawn to illustrate your statements it would appear that the *Empress* should have cleared your bows?—A. It would.

By Sir Adolphe Routhier:

1173. Q. I suppose you were convinced at the time that you were all right?—A. I was.

By Mr. Aspinall:

1174. Q. What do you mean by answering yes to that question? What is in your mind in regard to that—that you had the right of way?—A. To my mind I am entitled to keep my course and speed.

1175. Q. Although you are entitled to keep your course—I will agree with that—do you seriously think that as a navigator you have a right which entitles you to keep your speed?—A. Not full speed.

1176. Q. What speed?—A. Moderate speed.

1177. Q. Moderate speed varies according to the density of fog, does it not? Perhaps you will not agree with me about that, but I think it does?—A. I think it does.

1178. Q. In a dense fog of this character a moderate speed means a very slow speed?—A. It does.

1179. Q. And perhaps in danger it means no speed at all, does it not?—A. I do not know.

By Sir Adolphe Routhier:

1180. Q. In case of impending danger of collision do you know that the right of way disappears?—A. I know.

1181. Q. You knew that?—A. Yes.

By Mr. Aspinall:

1182. Q. You have to take seamanlike precaution, have you not?—A. I have.

1183. Q. How many times do you say you blew these two long blasts of yours?—A. Once.

1184. Q. According to your evidence yesterday what you did say was that you blew two long blasts and immediately ordered your engines ahead?—A. I did.

1185. Q. Well, that is not a very seamanlike thing to do, is it—to blow two long blasts to tell another man in the fog that you are stopped and at the same time to order your engines ahead? Is that a right thing to do?—A. I thought it was right at the time.

By Lord Mersey:

1186. Q. Why did you think it was right to contradict the signals which you had just given?—A. The signals I gave was not to indicate what I was going to do but to indicate the position I was in.

By Mr. Aspinall:

1187. Q. You were giving by whistle information to the other ship—the object of the two long blasts is to give information—and the information that you were giving to the officer in charge of the *Empress* was this: 'I am stopped in the water'?—A. It was.

1188. Q. And yet at the same time that you gave him that information you ordered your engines ahead. Do you think that is right?—A. Not at the same time.

1189. Q. It is practically a matter of seconds but even if there was a little time.—A. Well, two blasts were blown.

1190. Q. And?—A. And then I ordered my engines ahead.

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By Chief Justice McLeod:

1191. Q. After giving two long blasts and after putting your engines ahead, did you give any signal that you were moving ahead?—A. I did not.

1192. Q. You ought to have.—A. I know I ought to do so.

By Mr. Aspinall:

1193. Q. Your manœuvring might be apt to mislead the man on the other ship?—

A. Under the circumstances there was no time to mislead.

1194. Q. You have told us the position in which the *Empress* was when you saw her. Had your master come on the bridge by that time?—A. He just came up then.

1195. Q. And by that time this collision had got to happen; it was inevitable?—A. I did not catch that.

1196. Q. The master had just come up?—A. He had.

1197. Q. And you saw the lights of the *Empress* coming from the fog. Was the collision then bound to happen; was it inevitable?—A. Yes, so far as I could see it was inevitable.

1198. Q. What instructions did your master give you in regard to fog?—A. To call him in case fog came on.

1199. Q. Did you give effect to those instructions on this morning?—A. I did call him.

1200. Q. When the fog came on?—A. Yes, a few minutes after.

By Lord Mersey:

1201. Q. What is that?—A. A few minutes after the fog was showing there I called the master.

1202. Q. How long was the fog there?—A. From the time the fog shut in the lights of the *Empress* until the collision it would be about ten minutes.

By Mr. Aspinall:

1203. Q. That is from the time that it shut him in but I take it that you had seen the fog before that?—A. A little before that.

1204. Q. We were told by a witness from the *Empress* that the fog was seen to be coming off shore?—A. Yes.

1205. Q. Did you see that?—A. I did.

1206. Q. That would be more than ten minutes before the collision?—A. Yes, sir.

1207. Q. Why did you not act, obey the instructions of your master and have him called at once?—A. I was not so particular about the time of calling him. I sometimes used to wait a few minutes to see if the fog would clear.

LORD MERSEY.—I heard him say that he thought he would wait a few minutes to see if the fog would clear.

A. Not exactly that; I said that I sometimes used to wait a few minutes to see if the fog would clear.

By Lord Mersey:

1208. Q. Had your master asked you to call him if fog came on or to wait and see if it would clear?—A. He had not.

1209. Q. Why did you not do as he told you?—A. I did not think it was necessary just then.

1210. Q. I understand that your master, in answer to your summons, did not get on the bridge until the mischief was done—that is to say until the collision was inevitable?—A. He did not.

1211. Q. And if you had called him as soon as the fog came he would have been there long before?—A. He might.

By Mr. Aspinall:

1212. Q. He might?

TOFTENES.

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By Sir Adolphe Routhier:

1213. Q. You are not sure?—A. No, there was no reason for him to come up so fast; everything was clear; there was no thought of collision.

By Lord Mersey:

1214. Q. Everything was clear?

By Sir Adolphe Routhier:

1215. Q. No fog?—A. There was no danger in that fact.

By Lord Mersey:

1216. Q. Do you say there was no danger in the fog?—A. Oh, there might be.

By Mr. Aspinall:

1217. Q. Let me remind you of another thing you told us in this connection; when the master came up he was not told that there was another ship?—A. Almost immediately we saw the lights of the other ship.

1218. Q. But, at any rate he came up so late that you had not time even to give him that information?—A. No.

1219. Q. Looking back at it now, do you think you were right in not calling him ten or fifteen minutes sooner?—A. I do.

of your master? However, I will not pursue that. I suppose there is a good reason why your master tells you that he wishes to be called when there is a fog?—A. It is a

1220. Q. Is this the manner in which you mostly give effect to the instructions standing order.

1221. Q. The River St. Lawrence is a river in which a good deal of fog is met?—A. Yes.

1222. Q. And that is one of the great dangers of this waterway?—A. It is.

1223. Q. And you have that as a standing order on board ship?—A. We have.

1224. Q. Do you regard it as an order of importance?—A. Yes, I do.

1225. Q. As soon as he came up what orders did he give?—A. He gave no orders to me.

1226. Q. Did he do anything?—A. I do not know what he did first after he came up, but the first I saw was that he rang the engine room telegraph full speed astern.

1227. Q. It was not until the master came on the bridge that the engines were put full speed astern—is that right?—A. That is right.

1228. Q. If the master had not come up would they ever have been put full speed astern?—A. They would at the same time.

1229. Q. It was a little late, was it not?—A. No.

By Lord Mersey:

1230. Q. What do you mean by saying that it was not a little late?—A. To put the engine full speed astern.

1231. If you had put the engine full speed astern considerably earlier I suppose the collision would not have taken place?—A. But I saw nothing then; I saw no reason for putting them astern.

By Sir Adolphe Routhier:

1232. Q. The *Empress* was going astern?—A. The *Empress* was going astern.

By Mr. Aspinall:

1233. Q. The other ship had blown out three short blasts twice?—A. Yes.

1234. Q. You tell the master, he comes up and orders your engines to be put full speed astern?—A. Yes.

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1235. Q. Had they got working full speed astern before this blow was struck?—
 A. They had.
1236. Q. They had not much time?—A. I cannot say how much—about a minute.
1237. Q. How far did the stem of your vessel drive into the side of the *Empress*?—
 A. As far as I can make out now it would be about 12 feet.
1238. Q. More would it not?—A. I do not think so.
1239. Q. That is the distance you give?—A. It is.
1240. Q. Because it means that you are driving through her steel decks. —A. I do not think so.
1241. Q. You cannot get in unless you get through her decks.—A. She did not seem to have any decks.
1242. But there must have been, must there not? She has all those decks—main, lower and upper deck and so on You must have gone through them?—A. The only place I could see where there was any deck was above our deck.
1243. Q. She was a fine, strong vessel, was she not?—A. She may have been; I have not seen her.
1244. Q. She must have been a fine, strong vessel and, according to you, you got 12 feet in. What do you think drove your stem 12 feet into that vessel? You had no way on you according to your story. What do you think caused your stem to go 12 feet into that vessel?—A. The speed of the *Empress*.
1245. Q. Did she come crab fashion down upon you? How could you get 12 feet into her?—A. She came on us very much aslant.
1246. Q. At a slant?

Lord MERSEY.—The witness drew yesterday a sketch of the angle at which, according to his view, the *Storstad* struck the *Empress*; (to witness) just look at that which is your own drawing, and then Mr. Aspinall will ask you a question.

By Mr. Aspinall:

1247. Q. You went into her 12 feet according to your evidence?—A. About that.
1248. Q. You say that at the time of the blow you were stationary in the water?—
 A. Almost so.
1249. Q. Then it must have been the headway of the *Empress* that caused it?—
 A. It must have been.
1250. Q. She would show you her straight side? She has got a pretty straight side at that place?—A. Yes.
1251. Q. Would she, with her straight side, get you 12 feet into her? Was it not because you had driving power behind your stem that you went into her?—We had not.
1252. Q. But, at any rate, you did go in to that extent?—A. We did go so far into her.
1253. Q. According to your story, your stem has gone in 12 feet. This big ship is crossing your bows at 8 to 10 knots, according to your story; wouldn't the effect of that have been to have at once carried your stem right away to starboard, if your story is true?—A. Carry the whole ship over to starboard.
1254. Q. Oh, no, no, no; the stem. Have you ever been in a collision before?—
 A. Yes, I have.
1255. Q. Now, I am not suggesting for a moment that you are anything to blame in any way; I am merely asking this for another purpose. If you have a collision between one ship and another big ship which is crossing port to starboard, what happens? Doesn't it carry the whole of the forward part of the ship away to starboard?—A. Not always.
1256. Q. Well, mostly?—A. Perhaps; I have not seen many.
1257. Q. That is what you would expect, is it not?—A. It seems so.

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1258. Q. However, possibly there is some explanation in this case which will account for its going somewhat the other way, as it did, did it not?—A. Yes.

1259. Q. It went a little the other way; at any rate it did not go to starboard?—A. It did some.

1260 Q. Would you, if I gave you a chart, place the collision? It might help your Lordship; Captain Kendall did it. (Chart handed to witness and point of collision indicated.)

Lord MERSEY.—The point of collision is marked by Captain Kendall in a little round circle with a spot on it. Just look and see if I am right.

Mr. ASPINALL.—There is not very much difference between them, my Lord.

Lord MERSEY.—Will you tell us what Captain Kendall intended to be the spot, and what the circle is?

Mr. HAIGHT.—It is the landscape about, sir; it is a background. It is only to indicate where the dot is; just to call attention to the fact that the dot is inside.

Lord MERSEY.—The point in the middle of the circle is the place where the collision is supposed to have taken place?

Mr. HAIGHT.—Precisely. According to Captain Kendall the distance from Cock Point to the point of collision is four and a quarter knots; according to the chief officer of the *Storstad* it is about three and a half knots. One makes the bearing almost north of Cock Point, and the other one somewhat west of Cock Point. Our position is a little west of Captain Kendall's, and it is a little closer to the shore. There is a difference of not more than a knot, I should think.

Lord MERSEY.—Do you attach any significance to that?

Mr. ASPINALL.—I attach no importance to it, my Lord.

By Mr. Aspinall:

1261. Q. Mr. Toftenes, at the time of the collision there was a thick fog on, was there not?—A. There was a fog on.

1262. Q. And it is difficult under those circumstances either for you or for Captain Kendall to be absolutely certain as to where it happened?—A. It is.

1263. Q. You both, no doubt, have done your best. This brings us up to the collision. Did the captain of your ship, to your knowledge, give any orders to the engines after he had ordered them full speed astern?—A. I heard the telegraph ring but I cannot say what the order was.

1264. Q. You heard the telegraph ring, but you do not know what the captain did do?—A. I do not know.

1265. Q. Perhaps, then, there is no good in my discussing it with you. I want you in this connection, if you will,—hereafter I will be checking your engines' movements—to tell me the order in which the orders to the engines came, and the times between. You are running at full speed; you give the order, according to your evidence, slow; is that right?—A. Yes, I did.

1266. Q. What was the next order after that you gave?—A. Stop.

1267. Q. How long had you been running slow?—A. About two minutes.

1268. Q. That is, the interval between slow and stop was two minutes?—A. About that.

1269. Q. What was the next order after stop?—A. Slow ahead.

1270. Q. You must think, you know; I do not want to catch you over these things. That is what you mean?—A. That is right.

1271. What was the interval between stop and slow ahead?—A. About five or six minutes.

1272. Q. What was the order after slow ahead?—A. Full speed astern.

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1273. Q. What was the interval between slow-ahead and full speed astern?—A. It might be half a minute.

1274. Q. There your knowledge of the engine movements ends; you do not know more?—A. Ends there.

Chief Justice McLEOD.—He knows no more after the order full speed astern?

Mr. ASPINALL.—He knows no more; he simply says he heard the telegraph ring.

By Mr. Aspinall:

1275. Q. Could you tell me this: when was it that the first three short blasts from the *Empress* came with regard to those orders you have just told me about?—A. Whether it was before or after the stop I cannot say, but almost the same time.

1276. Q. About the same time as stop, the first three short blasts from the *Empress*, and five or six minutes after the stop came the order slow ahead?—A. It did.

1277. Q. If that be right, you see that leads to this conclusion, that the engines of the *Empress* were put full speed astern at least five or six minutes before this collision happened. That is the outcome of your last evidence?—A. That is it.

1278. Q. With a ship like that, with twin screws, if she was doing what she was telling you she was doing, ought she not to have been stopped in the water?—A. She ought to.

1279. Q. Have you any reason for thinking that the Commander of this vessel, the *Empress of Ireland*, was so foolish as to tell you by his whistles: I am reversing, and yet, in fact he was not?—A. I have no reason for thinking so.

1280. Q. You agree with me that if he was doing that five or six minutes, which is the outcome of your evidence, you would expect the *Empress* to be stopped?—A. I would.

1281. Q. I just want to put a very few questions with regard to a matter you suggested yesterday, namely this: you said that after a boat belonging to the *Empress of Ireland* came from the *Empress of Ireland*, the men in her refused to go back.—A. They did.

1282. Q. You are not making a charge against them, are you?—A. I am not.

1283. Q. What their condition was, I suppose you did not notice?—A. I did not.

1284. Q. Because I have not been able to trace these men, but you may be right in making that statement. You are not, however, making any suggestion that they were in any way cowardly?—A. I would not say anything about it; I did not know who they were.

1285. Q. You cannot identify them either; you do not know who they were?—A. I do not.

1286. Q. You have not seen them since?—A. No.

By Mr. Gibsone:

1287. Q. Is it not a fact, Mr. Toftenes, that when the *Empress'* boat came to your ship, the one in which I think you said were the crew of the *Empress* who refused to go back—A. If it was the crew of the *Empress*, I can't say; I do not know who they were.

1288. Q. You cannot say whether these men were of the crew of the *Empress* or not?—A. I did not see them; I did not know who they were.

1289. Q. My instructions are that what occurred was that the *Empress* boat, manned by three men of the *Empress* and laden with saved passengers, came to the *Storstad*, and after putting these passengers upon the *Storstad* asked the officer on the *Storstad* to supply some men to complete the crew of the boat and that the three *Empress* men who remained in the boat were supplemented by the men who were given by the *Storstad*. Is that really what occurred on the occasion you mention?—A. That did occur in one case, although how many of the *Empress* men were aboard that boat, I do not know. I do not think there were more than two.

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1290. Q. How many men did you give to that boat?—A. Three.

1291. Q. How many men had you sent out in your four boats?—A. Fifteen or sixteen, I shan't say which.

1292. Q. And you gave three to this boat?—A. I did.

1293. Q. Did you give any men to any other *Empress* boat?—A. I put five men in one.

1294. Q. That would make 16 on your four boats, three men on the first *Empress* boat, making 19, and five on the second *Empress* boat?—A. Yes.

1295. Q. That would make 24?—A. It would.

1296. Q. How many men had you available for boat duty at that time?—A. About 30.

1297. Q. What was your total crew?—A. 36.

1298. Q. Of the 36, you say that 30 were available for boat duty at that time?—A. They were.

1299. Q. Is it to your knowledge that one at least of the *Storstad's* boats was manned by sailors from the *Empress*?—There was one; I believe the wireless operator went on board of one of our boats.

1300. Q. Took charge of the boat, did he not?—A. He did not take charge. Our third officer was in charge of the boat.

1301. Q. He went on board, however, to help man the boat?—A. Yes.

1302. Q. How many of your men were there on that boat?—A. Four or five; there were five when they started, but that was the second trip.

1303. Q. Was not one of your boats only manned with two men?—A. There was not.

1304. Q. You answered Mr. Aspinall, I think, and said that you made no reflection whatsoever upon the conduct in the way of courage or duty of the *Empress* men?—A. I could not do it; I did not know who they were, whether passengers or crew.

1305. Q. No reflection whatsoever is made upon them in that way?—A. I could not do it. There is one thing that I heard of a passenger; that those men that refused to go out, they were officers of the *Empress*. Somebody told me that; who told me I do not know.

1306. Q. You yourself witnessed nothing of the kind?—A. I did not know it.

1307. Q. You have no personal knowledge of that?—A. I have no personal knowledge of who they were.

By Lord Mersey:

1308. Q. Who was the person who told you that?—A. I could not say that; it was one of the survivors, just after this thing happened.

1309. Q. Was it a man or a woman?—A. A man.

1310. Q. Where did you see him?—A. On board the ship, a few minutes after this happened.

1311. Q. On board the *Storstad*?—A. On board the *Storstad*.

1312. Q. Have you ever seen him since?—A. I would not know him if I did see him.

1313. Q. Did you ask his name?—A. No, I didn't.

1314. Q. That is all you know about it?—A. That is all I know about it.

By Mr. Gibsone:

1315. Q. By what means were the passengers that were transported to the *Storstad* in the boats taken from the boats to the *Storstad* deck?—A. Those that could go up ladders came up, and the others were pulled up by ropes.

1316. Q. Was there anything besides ladders?—A. No, there was nothing besides ladders.

1317. Q. How many ladders were there?—A. Six or seven, I think.

1318. Q. What kind of ladders were they? Rope ladders?—A. Some were rope ladders, some wooden ladders.

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1319. Q. Jacob's ladders?—A. Yes.

1320. Q. Those who could not climb the ladders, I understand you to say, were pulled up by ropes?—A. Yes.

1321. Q. What proportion, perhaps, were pulled up by ropes?

By Lord Mersey:

1322. Q. Do you know what proportion were pulled up by ropes?—A. I could not say that.

1323. Q. Do you know what proportion means?—A. Yes.

1324. Q. Now, did you count in order to see how many came up by ropes and how many did not?—A. I did not. I did not see all the boats; I could not be all over at once.

By Mr. Haight:

1325. Q. During the time you have been on board the *Storstad* as third officer, second officer and first officer, what speed has been usually averaged at sea?—A. About ten miles, nine or ten miles.

1326. Q. That is when she is going full speed and making as much time as she can?—A. That is when she is going full speed, loaded.

1327. Q. Up to the time that you had Metis Point abeam on the night of the collision, had you encountered any fog at all?—A. I don't remember of any now, not that night.

1328. Q. Was the weather perfectly clear when you were off Metis Point?—A. It was.

1329. Q. Did it remain perfectly clear until you were able to pick up Cock Point?—A. It was.

1330. Q. Was it clear when you first sighted Father Point light?—A. It was clear enough to see the light at 15 miles distant, and that is as far as it shows.

1331. Q. Had you made out Father Point light before you saw the masthead lights of the *Empress*?—A. Yes, I had seen it a long time before.

1332. Q. So that at whatever distance the masthead lights showed, at that distance the weather on this night was clear enough to allow them to show?—A. It was.

1333. Q. When you first did make out the masthead light of the *Empress*, do you think they had been in sight any length of time, and that you could have seen them earlier if you had looked at that particular point, or do you think you saw them as soon as they were reasonably visible?—A. I think so.

1334. Q. Were you stationary, in one place on the bridge?—A. No, I was going back and forth as usual.

1335. Q. Were you able to form any judgment whatever when you first saw the masthead lights of the *Empress*, as to whether she was in motion or stationary?—A. I did not think of it just at the moment; she was so far off.

1336. Q. You have stated in your examination to Mr. Aspinall that you are sure that you heard the *Empress* blow a signal of one whistle?—A. I am.

1337. Q. Meaning a running signal in a fog?—A. I did.

1338. Q. How many times did you hear the *Empress* blow one whistle, only once or more than once?—A. I know I heard it once, I do not know if it was more; I could not say that.

1339. Q. Have you had experience in running the *Storstad* or other steamers against a strong tide or against a strong current?—A. Not any special.

1340. Q. You have been in places where the tide would run to two or three knots, have you not?—A. Yes, and faster.

1341. Q. Does the tide, if it is on one bow or the other, affect the steering of your vessel more if you have very little headway or if you have lost headway than it does if you are going eight or nine knots?—A. It does.

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1342. Q. If you are going say a knot and a half or two knots, and you have a current of a knot and a half or two knots on your starboard bow, what will your vessel do?—A. Very likely swing to port.

1343. Q. That is when your speed is much reduced, it is like a canoe getting into a current which will swing the head one way or the other?—A. Yes.

1344. Q. When you had so far reduced your speed that your vessel would not answer your helm, was there any way of foretelling which way your vessel might sheer?—A. There was not.

1345. Q. It just depended which way her head happened to stop?—A. It would.

1346. Q. Up to the time that you put your engines slow ahead, on which side had the whistle blown by the *Empress* sounded?—A. On the port side.

1347. Q. Was that true of every whistle that you heard?—A. Every one.

1348. Q. Prior to the collision, did you hear any whistle from the *Empress* that sounded on your starboard side?—A. I did not.

1349. Q. Well, with the whistles of the *Empress* sounding on your port bow, and the whistles themselves indicating that she had been going astern for some time, did you consider there was any chance of danger if you put your boat a little further to starboard?—A. I did not.

1350. Q. Your desire, however, was not to go any farther to port?—A. That is it.

1351. Q. Under the rule which requires the privileged vessel to keep her course, is it your understanding that you are entitled to keep sufficient way on your vessel so that you can keep steerage way?—A. Yes.

1352. Q. You were asked by the court if you gave any signal indicating that your engines had been started ahead, after you had blown the signal two long blasts showing that your vessel did not have steerage way. Is there any signal provided by the rules which you could have blown?—A. I could have blown one long blast.

By Chief Justice McLeod:

1353. Q. What would have that indicated?—A. That would have indicated that the ship was going ahead.

1354. Q. That she was under way?—A. Yes, that she was under way.

By Mr. Haight:

1355. Q. That would have been an appropriate whistle to blow as soon as your slow ahead order had really started your ship enough to give you steerage way, would it not?—A. It would.

1356. Q. In your judgment, had your engines run slow ahead long enough to give you steerage way when the light of the *Empress* showed up on your port bow?—A. They might, just at the moment, but it was not more than just so.

1357. Q. At the best, she had not gone ahead more than long enough to just perhaps give her speed enough to start with?—A. She had not.

1358. Q. And as soon as the *Empress* came into view that would not have been an appropriate whistle to blow?—A. It would not.

1359. Q. You have stated in reply to Mr. Aspinall that you thought the fog had lasted about ten minutes between the time you saw the *Empress* shut out and the time of the collision?—A. Yes.

1360. Q. Before the *Empress* was shut out had the horizon been clear up the river? had you had an unobstructed view of the river?—A. Up the river, but not towards the land.

1361. Q. When you were approaching Cock Point, had you a clear view of the entire river, before the *Empress* was sighted?—A. Before the *Empress* was sighted, yes.

1362. Q. And when the *Empress* was sighted you still had clear weather?—A. Yes, when the *Empress* was sighted we still had clear weather.

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1363. Q. When the *Empress* was shut out you knew then whether there were or were not other vessels in the vicinity?—A. I did not see any.

1364. Q. And if they had been there would you have seen them, were you on the look-out?—A. I would have seen them.

1365. Q. Your navigation after the fog shut in, while the *Empress* was showing a red light, was governed by the fact that you knew how many vessels were in the river before the fog shut in?—A. It was.

1366. Q. As you approached the *Empress*, she having blown the reversing whistle once or twice, and having, according to her whistle, reversed for several minutes, your expectation was that she was stationary or at least making no headway to the star-board of your course?—A. It was.

1367. Q. How much way through the water does the *Storstad* need, loaded, to give her steerage way?—A. One or two knots.

1368. Q. How much jar was there when the two vessels came together?—A. I didn't feel much.

1369. Q. Were you thrown off your feet or off your balance?—A. I hardly felt it at all.

1370. Q. How would it compare with the jar against a dock when the steamer is docking?—A. Well, I hardly felt the blow as anything. I heard a crash, but I did not feel any blow.

1371. Q. You heard a sound forward, but you say it did not jar seriously?—A. No, not much.

1372. Q. Captain Kendall has suggested that the impact was so heavy that your vessel struck him and really bounded back by virtue of the rebound of the blow. Was there any such phenomenon on your vessel as that?—A. There was not.

1373. Q. Did you see any explosion or any flash of fire from the side of the *Empress* when the vessel touched?—A. I saw sparks fly.

1374. Q. To what did you attribute these sparks?—A. To the impact of the ships as they came together, steel against steel.

1375. Q. You thought it was simply sparks flying from friction?—A. That is all.

LORD MERSEY.—Mr. Newcombe, do you wish to ask any questions of this witness?

MR. NEWCOMBE.—No, my Lord, I do not.

LORD MERSEY.—Well, what do you propose to do next?

MR. NEWCOMBE.—I should think it would be convenient to examine the Master of the *Storstad* now.

LORD MERSEY.—What do you say, Mr. Aspinall?

MR. ASPINALL.—I see no objection to that course.

MR. HAIGHT.—I should be glad to have him examined, as the Chief Officer tells only about two-thirds of our story.

LORD MERSEY.—I think it is convenient to examine the Master of the *Storstad* now because our minds are following the line that his examination will cover, that is the navigation immediately prior to the collision and afterwards.

MR. HAIGHT.—And before calling Captain Andersen may I ask what is the court's pleasure as to keeping the Chief Officer in Quebec?

LORD MERSEY.—I think he should be kept here for the present; do not let him go at all events without the permission of the Court.

MR. HAIGHT.—The reason I mention that is that I am asking the other officers to come on, and while I am telling my learned friends that the boat is at their risk, still it is not quite fair for me, perhaps, to take the entire crew of thirty-six officers and men off my ship in Montreal and leave her without caretakers.

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Lord MERSEY.—Oh no, I sincerely hope we are not to have thirty-six men from your ship.

Mr. HAIGHT.—It will not be quite so bad as that, my Lord, but my crew will all be at the disposal of the other side, and I shall ask ten or twelve of the crew, who manned the boats, to testify about five minutes each.

Lord MERSEY.—Well, so far as I am concerned, as soon as these men have been examined I shall allow them all to go away together, but I should not like this witness to go away at present.

Mr. HAIGHT.—I have my first and third officers here now and the second officer is on board the steamer.

Lord MERSEY.—Well, I shall only answer your question to this extent, that this gentleman must not go away at present.

Mr. HAIGHT.—Well I would ask that Captain Andersen be now called and sworn.

Captain THOMAS ANDERSEN, s.s. *Storstad*, sworn:

Examined by Mr. Haight:

1376. Q. Now Captain, before asking you anything about the matter, I would request you in answering the questions, instead of facing me, to turn a bit to one side so that the Court can hear, and try to speak loud enough so that everybody will hear?—A. I will try.

1377. Q. You were the master of the steamship *Storstad* at the time of the collision with the *Empress of Ireland*. were you not?—A. I was.

1378. Q. How long have you been in command of the *Storstad*?—A. Very nearly three years.

1379. Q. Did you take command of her when she was new?—A. A few months later.

1380. Q. And you have been in command of her ever since?—A. Yes.

1381. Q. On the night of the collision, at what hour did you go below?—A. I went below about eleven o'clock in the evening.

1382. Q. Where was the *Storstad* then?—A. She was about six miles below Matane.

1383. Q. That was Sydney time?—A. Yes.

1384. Q. What were the weather conditions then?—A. It was calm and clear.

1385. Q. Who were on watch when you went below?—A. The second officer.

1386. Q. What was the next watch and when was it to change?—A. At twelve o'clock the first and third officer came on watch.

1387. Q. Is it customary at night for you to have both the first officer and third officer on the bridge on watch?—A. It is.

1388. Q. There was nothing unusual then about this instance?—A. No.

1389. Q. How soon did you turn in after you went below?—A. I turned in about eleven o'clock, a little after.

1390. Q. As soon as you went below you turned in?—A. Yes, right after I went below.

1391. Q. Now, when did you first get a report from the bridge after you had turned into your bunk?—A. Well, I couldn't say exactly the hour, but shortly before three o'clock.

1392. Q. And what report did you get?—A. Well, he called me and said it was getting hazy.

1393. Q. Who called you?—A. The first officer.

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1394. Q. State as exactly as you can remember just what he said and you said?—A. As near as I can remember he said: 'It is getting hazy,' and I asked him, 'Can you see Father Point light?' And he said, 'It is just closing off now,'

1395. Q. How did he speak to you, through what?—A. Well, in the ordinary way.

1396. Q. Yes, but through what—there is a deck between you, is there not?—A. Yes, he spoke to me through a speaking-tube from the bridge to my bunk.

1397. Q. There is a speaking-tube from the bridge that goes right to the head of your bunk?—A. Yes.

1398. Q. How soon after he spoke to you did you go on to the bridge?—A. A few moments.

1399. Q. You went right up?—A. Yes, I went right up.

1400. Q. When you went on to the bridge what did you first do?—A. At first when I got up on the bridge I went amidships to the compass—as a rule I always do when I get up, to see where the ship is heading.

1401. Q. And when you looked into the compass how was she heading?—A. West by south half south on the compass.

1402. Q. That would mean what course magnetic?—A. West by south.

1403. Q. Did you look at the telegraph?—A. No, I did not. The first officer was standing at the telegraph at the time.

1404. Q. Well, after you looked at the compass what was the next thing you did?—A. I barely got to the compass when I sighted the other steamer.

1405. Q. And when you sighted the other steamer, what did you see?—A. I saw a light, and the hull of the ship loomed up on our port side.

1406. Q. Was it the masthead light that you sighted first?—A. One of the mast-head lights, yes.

1407. Q. And did you see any coloured light?—A. I saw a green light.

1408. Q. Now when you could first see the light how did it bear from your vessel?—A. Well, I did not take any special bearing, but it was at least three points on our port bow.

1409. Q. As the *Empress* loomed up so that you could see the outline of her hull, how much was her stem, when you could first make it out, to port of your course?—A. Well, that I couldn't exactly say, but I took the whole hull of the ship as I saw it, and that was at least three points on our port bow.

1410. Q. That is, you drew no distinction between the bearing of the stem of the *Empress* and the bearing of her stern?—A. No.

1411. Q. Now as nearly as you can, will you estimate the distance between the *Empress* and the *Storstad* when you could first make out the vessel's light?—A. I couldn't exactly say, but I would imagine it would be a couple of ship's lengths.

1412. Q. LORD MERSEY.—That would be about 800 feet?—A. Yes, from 600 to 800 feet.

By Mr. Haight:

1413. Q. The instant that you saw the *Empress*, what did you do?—A. I ran to the telegraph and rang full speed astern.

1414. Q. Did you get an answer to that signal?—A. Well, I didn't exactly notice, but I am sure it was working; I felt the ship.

1415. Q. You felt the vibration?—A. Yes.

1416. Q. Now, as well as you can estimate it, how long do you think your engines were going full speed astern before the actual instant of contact?—A. I couldn't exactly say, but I would think it would be nearly half a minute.

1417. Q. Can you now give us any estimate as to whether or not the bow of your vessel swung to starboard under the reversed engines, and if so, how much?—A. The stern of a vessel will swing to starboard on the reversed engines after the ship starts to go astern, but she had not started to go astern at that time, and it could not be very much.

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By Chief Justice McLeod:

1418. Q. Will you please repeat that, Captain Andersen?—A. They do not start to swing very much before the ship starts to go astern on the reversed engines, and it could not be very much at that time.

1419. Q. That is your ship?—A. Yes.

By Mr. Haight:

1420. Q. Would the influence of your reversed engines within the thirty seconds or so that you were reversing have changed your heading as much as a point?—A. It might between half a point and a point, or something like that—I can't say exactly.

1421. Q. Could it have changed it more than a point?—A. Not much.

1422. Q. What in your judgment is the utmost that you could change the heading of your steamer under reversed engines in thirty seconds under the conditions of speed as you found them that night?—A. I should say between half a point and a point.

1423. Q. Do you know how the wheel was at the time you came on to the bridge and looked at the compass, as you have just told us?—A. I didn't notice.

1424. Q. Now, Captain Andersen, will you please take the models and also indicate the relative positions of the two vessels at the actual instant of contact, and then make a second diagram or rather I will put it this way, first make a diagram showing how the vessels bore when you first made the *Empress* out, and second, the position of the two vessels at the actual moment of contact? Use the larger model for the *Empress* if you please?—A. I will. (After a few moments.) I have made a diagram which is filed as Exhibit No. 4 for the *Storstad*. I have also made a second diagram which is filed as Exhibit No. 5 for the *Storstad*.

By Lord Mersey:

1425. Q. Captain Andersen, when you were starting to make the first diagram you spoiled a sheet of paper, or at least you made an ineffectual attempt to make the diagram, and you discarded that sheet?—A. I did.

LORD MERSEY.—I wish that sheet containing the ineffectual attempt of the Captain to be filed also as Exhibit No. 3 for the *Storstad*.

MR. HAIGHT.—Yes, my Lord, the three sheets will be filed as Exhibits 3, 4 and 5 respectively for the *Storstad*.

LORD MERSEY.—Now, I want to put another question to the Captain.

1426. Q. Taking the two little models, Captain, putting them in the first position as shown in Exhibit 4 for the *Storstad*, that is to say the position in which you say your ship and the *Empress* were at the time you first sighted the *Empress* . . . that is take your own sketch filed as Exhibit 4 of the *Storstad* and put the two models in their respective places, marked on the sketch?—A. Yes, I have done so, my Lord.

1427. Q. Now, will you please put a finger upon each of them?—A. Yes, sir.

1428. Q. Now, then, will you please move them in the way in which according to you they did move in order to cause the collision?—A. Yes, I have done so.

MR. HAIGHT.—Can he mark them right on that diagram, my Lord?

LORD MERSEY.—No, he cannot mark a moving thing.

MR. HAIGHT.—But that will show how much the *Storstad* went forward towards the *Empress* . . . the marking of that diagram will show how much the vessel went ahead respectively towards one another in his opinion.

LORD MERSEY.—Yes, I see that.

SIR ADOLPHE ROUTHIER.—A simple line could be drawn to show that.

By Lord Mersey:

1429. Q. I understand the *Empress* came up against you and poked a hole in her side against the bow of the *Storstad*, according to your understanding of it?—A. That is as near as I can say it; there was a little way on the *Storstad*.

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1430. Q. You were going very slowly indeed?—A. Yes.

1431. Q. So slowly that you were scarcely moving?

Mr. HAIGHT.—My Lord, have you any objection to have the outlines of the two vessels in the position in which he has put them now marked on that diagram filed as Exhibit No. 4 of the *Storstad*?

Lord MERSEY.—No, I have none.

Mr. HAIGHT.—Just put a line around them, Captain, please?—A. Yes, I have done so.

1432. Q. That is on the diagram filed as Exhibit No. 4 for the *Storstad*?—A. Yes.

By Lord Mersey:

1433. Q. Now, Captain Andersen, can you suggest any explanation of the whistles that you heard from the *Empress*?—A. I cannot.

1434. She must have been whistling in a very strange manner?—A. I did not hear them myself.

1435. Q. But you heard the story?—A. Yes.

1436. Q. Her story is that she was indicating by whistles that she was stopped, and your story is that she was going at a great speed?—A. She was going at a great speed.

1437. Q. Can you suggest any explanation of that course that the *Empress* followed?—A. I cannot.

1438. Q. The whistles were all lies?—A. Yes, so I am told.

1439. Q. They must have been . . . can you explain or suggest to us why a man in charge of a vessel like the *Empress* should be using whistles in a sense which would indicate that his vessel was moving in a course in which she was not moving?—A. I cannot give any reason.

1440. Q. No, but what is your idea of it, what do you think they were doing with their whistles?—A. The only thing is, she must have gone full speed astern and started full speed ahead again to cross our bows.

By Sir Adolphe Routhier:

1441. Q. Do you think that it was a mistake or a lie?—A. I don't understand.

By Lord Mersey:

1442. Q. You must have discussed this since the collision, Captain Andersen?—A. I have discussed it, but I cannot come to any conclusion.

By Mr. Haight:

1443. Q. Assuming, Captain Andersen, that a man blows a signal of three blasts, and then four or five minutes later blows another signal of three blasts, is there anything to indicate that he has been going full speed astern all that time?—A. The blasts will indicate that he is going full speed astern.

1444. Q. The blasts will indicate that he is going full speed astern when he blows them?—A. Yes.

1445. Q. They do not say how long he is going to keep on going full speed astern?—A. No.

1446. Q. Now, if a man who says he can stop a ship in two lengths blows a signal of three blasts, and then four minutes later blows a signal of three blasts again,—A. He will go at a good rate astern.

1447. Q. He ought to have backed up half a mile, by the time that second whistle is blown?—A. As far as I understand the rules—

Mr. ASPINALL (interrupting)—My Lord, I do not think that my learned friend should tell his witness what to say.

Lord MERSEY.—I think we shall have to put you in the witness box, Mr. Haight.

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Mr. HAIGHT.—But am I not right in saying that Captain Kendall said he could stop his ship in two lengths?

Lord MERSEY.—I think that is right.

Mr. HAIGHT.—And if I am not mistaken I think two minutes is the longest time that Captain Kendall indicated it would take him to stop his ship.

Mr. MEREDITH.—Yes, that is quite right. He said two minutes and he said two lengths.

Lord MERSEY.—Go on, Mr. Haight.

By Mr. Haight:

1448. Q. I do not think I asked you, Captain Andersen, if before you went on to the bridge you heard any whistles blown either by your vessel or by the other?—A. About the same time I was called I heard a two-blast whistle from the *Storstad*.

1449. Q. Did you hear any whistles from the *Empress*?—A. No.

1450. Q. Now Captain, when you put your engines full speed astern, did you blow any whistles?—A. I told the third officer to blow three blasts, which he did. He was standing by the compass and the whistle.

1451. Q. When the vessels actually came together, Captain, what was the force of the blow as you felt it on your bridge?—A. I hardly felt it at all.

1452. Q. Did you lose your balance?—A. No, not the slightest.

1453. Q. How did the jar compare with the ordinary jar when a vessel is docking and swinging up against the pier?—A. I think you get just as big a jar getting up alongside a dock. Of course, that will mostly be on the side and we will feel the jar more.

By Chief Justice McLeod:

1454. Q. Would the jar be greater upon your vessel if you were standing still and the *Empress* came down across the bow of your vessel, or if you were going at eight or ten miles an hour . . . which would give the greatest jar?—A. I think that would be about the same.

1455. Q. No matter whether you were full speed ahead or not?—A. She is so heavy when she is loaded that she will have quite an impact before we feel it much amidships.

By Mr Haight:

1456. Q. Now, Captain, as near as you can estimate from the time you first saw the *Empress* until she went across your bow, what would you say was her speed. . . I realize you cannot be accurate, but give such judgment as you can?—A. I should say eight to ten miles, or something like that, but I cannot say exactly.

1457. Q. And what do you think was your speed . . . you have indicated on Exhibit 4 a certain forward movement of your ship . . . now, if she was going eight or ten miles per hour, what speed do you think you were going?—A. I say that I looked at the water when I came out and I thought my ship was stopped. When I came out I went right out to the rail and looked at the water, and I thought my ship was stopped, but the speed might have been one or two miles an hour at that time.

1458. Q. Now you have indicated on Exhibit No. 4 of the *Storstad* about a little less than half a length forward movement of the *Storstad* and about a length and a half forward movement of the *Empress* to bring the two vessels together. Is that as near as you can estimate the relative speed of the two vessels?—A. It is.

1459. Q. Now from your observation are you able to testify positively that the *Empress* was moving ahead?—A. Positively.

1460. Q. You have heard Captain Kendall's testimony to the effect that his vessel was absolutely dead in the water and had been so for a matter of some minutes?—A. I have.

1461. Does that cause you to change your opinion as to the relative movements of the vessels?—A. Not the least.

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1462. Q. When the vessels came together what was the immediate effect on both of the contact?—A. The effect was that they came together and parted, her stern to our bow, they swung about parallel.

1463. Q. Will you be good enough to take the two models and indicate the relative positions of the two vessels as the *Empress* cleared your bows?—A. I will.

1464. Q. Will you please mark with a pencil around the models as you have them on the paper, thus making a diagram of the position of the two vessels as the *Empress* cleared your bow?—A. Yes, I have done so.

1465. Q. That diagram will be filed as Exhibit No. 6 for the *Storstad*?—A. Yes.

1466. Q. What change, if any, had taken place in your heading from the time the vessels came together until they assumed the positions shown in the diagram which has just been filed as Exhibit 6 of the *Storstad*?—A. I couldn't exactly say, because it was a few minutes later when I looked at the compass, and then we were going full speed ahead, and when I looked again it was headed somewhere about north, north or north-west, or something like that.

1477. Q. Well, had the impact altered your course in either direction, and if so, in which?—A. It turned the bow over to the northwards, to the starboard.

1478. Q. And as well as you could estimate it, your course having been approximately west by south originally, or west, how much do you think your heading was swung to starboard as the result of the momentum of the *Empress*?—A. About eight points. I looked a little after and it might have turned a little farther than when the ship was in contact.

1479. Q. What was your immediate manœuvre so far as your engines and helm were concerned, just after the vessels cleared each other?—A. I stopped my engines at the very moment the vessels cleared.

1480. Q. And why did you do that?—A. To stand by and see how things were looking.

1481. Q. To see if you were going to float?—A. Yes.

1482. Q. And after that, Captain, what was the next order to your engines?—A. Slow ahead.

1483. Q. And your wheel?—A. Port helm.

1484. Q. What were you intending to do then?—A. To get near the shore if it proved the ship would sink, to beach her in case she would sink.

By Chief Justice McLeod:

1485. Q. Could you see the damage done to the *Empress*?—A. It was too dark, I couldn't see.

By Mr. Haight:

1486. How long was it after you had stopped the engines before you ordered them ahead with a view of getting close to the shore?—A. That I couldn't say, but it was just a matter of perhaps a minute or so.

1487. Q. Now when you made up your mind that you would work in towards the shore, which was the quicker way to head, under a port wheel or a starboard wheel?—A. It would be quicker with a port wheel, I considered.

1488. Q. Now, just before the vessels touched, did you hear any hail from the *Empress*, Captain Andersen?—A. I did.

1489. Q. What did you hear?—A. I heard someone shouting 'Don't go astern.'

1490. Q. How much space do you think intervened between your stem and the side of the *Empress* when the hail was heard?—A. It was very close, her bow was starting across my ship.

1491. Her bow had started to cross your course?—A. Yes, her bow had entered my bow over to the other side.

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1492. Q. I understand you mean that her bow had crossed your course, but the vessels had not touched?—A. No, they were not in contact.

By Lord Mersey:

1493. Q. Still the hail that you heard from the *Empress* meant to keep her in the hole you were just going to make?—A. That is what I understood.

By Mr. Haight:

1494. Q. Did you hear the hail more than once?—A. A couple of times.

1495. Q. And what did you do?—A. As soon as the ships were in contact I put her full speed ahead, and I sung out "The ship is going full speed ahead."

By Sir Adolphe Routhier:

1496. Q. That was to keep her in the hole?—A. That was just when the ships came in contact.

1497. Q. And your idea was to keep the stem of your ship in the hole in the side of the *Empress*?—A. Yes.

By Mr. Haight:

1498. Q. As I understand Captain Kendall's evidence, he hailed you and told you not to go astern, or to go ahead, and keep in the wound, but he heard no reply from your bridge at all?—A. I did reply, but I did not have a megaphone in my hand so it might be he did not hear it, I can't say as to that, but the people on board my ship heard it.

1499. Q. At any rate, Captain, your engines were put full speed ahead?—A. Yes.

1500. Q. As quickly as you could do it, at the instant of contact?—A. Yes.

1501. Q. Could you have done anything more to keep your bow in the wound?—A. I could not.

1502. Q. When the *Empress* disappeared into the fog did you blow any whistles to her?—A. I blew continuously, but I didn't hear any answer.

1503. Q. Did you know at that time that she was hurt more than you were?—A. No, I thought at that time that the *Empress* was leaving us.

1504. Judging from the heading of your vessel, what do you think the heading of the *Empress* was when the two vessels came into contact?—A. That I couldn't exactly say, but I should think it would be about north or north-east or something like that.

1505. Q. Is it in your judgment possible that she was at the time of collision heading north 72 east magnetic?—A. Impossible.

1506. Q. Now what did you do with reference to manning your boats and the protection of your own ship and the saving of lives?—A. Immediately after the collision I sent the mate forward to sound the cargo-hold to see if she was making water.

By Lord Mersey:

1507. Q. Before we leave the question of the course of the vessels, I would like to ask this question, what would be the correct course of the *Empress* if she was putting out to sea?—A. As a rule, I myself keep north-east, a north-east course from Father Point until I got out well clear of the shore.

1508. Q. Are you suggesting she was not being properly navigated to get out to sea?—A. That I couldn't say. I wouldn't have done it.

1509. Q. You wouldn't have done it?—A. No.

1510. Q. Isn't that the course the steamers always take going out to sea from Father Point?—A. That is up to the judgment of the different captains. I think some go closer and some farther out.

1511. Q. What do you think her course ought to be if she was going out to sea? I haven't heard it suggested yet that there was anything wrong in the course she took?—A. I don't think the course was much wrong.

1512. Q. Then you think it was a right course?—A. I think it was a right course if there were no ships in the road.

1513. Q. Then she was on the course on which she ought to be put to get out to sea?—A. I think she could steer that course.

1514. Q. Do you suggest that she changed that course?—A. That is what I believe, and that is what she must have done.

1515. Q. What do you suggest that she changed it for?—A. That is a thing I cannot say, but I might think when the fog set in the ship was trying to get farther out in clear weather, thought the weather might be clearer out there than along the shore.

By Chief Justice McLeod:

1516. Q. Farther off shore, you mean?—A. Yes.

By Sir Adolphe Routhier:

1517. Q. Do you suggest that her first course was a crossing course?—A. The first course must have been a crossing course.

By Mr. Haight:

1518. Q. Now, please tell us what you did about ordering your boats cleared?—A. Immediately after the collision I ordered the mate forward to sound the tanks, and the third mate I sent to call all hands on deck to man the lifeboats and get them out, and I blew the whistle myself.

1519. Q. Now, when did you first get the idea as to where the *Empress* had gone?—A. That is when I heard a hailing from the passengers or crew of the *Empress*.

1520. Q. Now, at that time had you turned your vessel about on the port wheel?—A. I had turned my vessel about on the port helm until a little to the east of Father Point light.

1521. Q. You were headed in shore a little to the east of Father Point light, is that what I am to understand?—A. Yes.

1522. Q. And you say you heard what?—A. I heard cries on my port bows from the passengers. At first I didn't know what it was, it was like one sound.

1523. Q. What did you do then to get down to the *Empress*?—A. I hauled the ship back for the *Empress*.

1524. Q. Under what wheel?—A. On the starboard wheel.

1525. Q. And you put your engines which way?—A. Slow ahead.

1526. Q. Swinging her head off from shore?—A. Yes, towards the *Empress*.

1527. Q. And how close did you get to the *Empress*?—A. I got about a ship length and a half way, and put the engines full speed astern, and turned her around astern towards the *Empress*.

1528. Q. And did you back up then?—A. I backed up as near the *Empress* until some one sung out from aft "Don't go any closer."

1529. Q. That was the Chief Officer?—A. I heard afterwards it was the Chief Officer, but at the time I couldn't tell who it was.

1530. Q. And then you stopped the engines?—A. Yes.

1531. Q. Captain Kendall's impression is that the vessels were a half or three-quarters of a mile apart while the passengers were being picked up and transferred from the water to the *Storstad*?—A. We were so near that a passenger from the *Empress* could swim around to the *Storstad*. We saw them swim right up to our stern. I saw them myself.

1532. Q. Did you yourself see the outline of the *Empress* just before she sank?—A. I did.

1533. Q. Do you know which way she was listing?—A. As far as I could see, she was listing hard over to starboard.

1534. Q. And which way was she heading with reference to the land?—A. Her bow was heading out from the land.

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1535. Q. Now, roughly speaking, how many trips did your boats make, and how many people were brought in to the *Storstad* by your boats?—A. I know one of my boats made three trips, and the others two, whether they made any more I can't say.

1536. Q. Do you know approximately how many survivors were brought aboard by your boats?—A. That I couldn't say.

1537. Q. Did your boats keep going until they were able to find nothing but dead bodies?—A. They did.

1538. Q. Now, did you have any discussion with any of the boats of the *Empress* as to their continuing the work?—A. After one boat was empty, a big collapsible boat of the *Empress*, they had all left, and I sung out to send out the boats and get off again and save more people, and some one down below shouted that she was too heavy, and they wouldn't go.

1539. Q. You didn't know who shouted?—A. No, I didn't know who shouted.

1540. Q. What did you order done?—A. I ordered my men to get some one down in the boat and get off.

1541. Q. And did that boat make another trip?—A. It did.

1542. Q. Manned entirely by your men?—A. Yes, manned entirely by my men.

1543. Q. Do you know how many people they picked up in that boat?—A. That I heard, but I can't remember.

1544. Q. Did you see anything in connection with the partial manning of another of the boats of the *Empress*?—A. No, I didn't see that.

1545. Q. How was the water at the time of the collision and the rescue?—A. It was calm and smooth.

1546. Q. No wind at all to speak of?—A. Hardly any.

1547. Q. Now just say in a word or two Captain, what you did to alleviate as far as you could the sufferings of the people who were brought aboard?—A. We did everything we could. We gave what we had on board as far as clothes and other things are concerned. We did all we could to assist the people.

1548. Q. Many people were without clothes?—A. They were mostly all in their night dresses.

1549. Q. And what did you furnish them with in the way of clothing?—A. They got my own clothes as well as my wife's clothes, and what we had in the cabin, and so did our officers and crew give away what they could.

1550. Q. I have heard it stated that even curtains and tablecloths were used as clothing?—A. Yes, everything that could be used.

1551. Q. And what was done in the way of furnishing them with spirits?—A. They got everything we had.

1552. Q. I understand that most of the people that were in the water went down into the engine-room?—A. Well, all the people that could walk, and I suppose most of the crew from the *Empress* went down into the engine-room.

1553. Q. Were there a number that came aboard so exhausted that they had to be lifted and carried?—A. Yes, there were.

1554. Q. Where were they taken?—A. Some were taken to the cabin and some to the officers' quarters.

1555. Now, Captain, I wish to ask you a few questions about your ship.... what is the dead weight capacity of your ship?—A. 3,561 tons....oh, the dead weight, excuse me, that is 10,885 tons.

1556. Q. Her net tonnage?—A. Yes.

1557. Q. And her gross?—A. 6,028 tons.

1558. Q. And she carries how much?—A. 10,885 tons.

1559. Q. Is that without deduction for engine-room space?—A. Yes.

1560. Q. What are her dimensions, length, breadth and depth of hull?—A. Her length is 452 feet, breadth, 58.2, and depth, I can't remember that exactly, but thirty some odd feet.

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1561. Q. What is her speed—both loaded and light?—A. Her speed loaded is 10 knots, that is what we usually travel.

1562. Q. That is full speed?—A. Yes.

1563. Q. And in ballast?—A. Twelve knots about.

1564. Q. In proper trim?—A. Yes.

1565. Q. That is about the best she can do when trimmed for her best speed?—A. Well, we might do a little more by forcing her, but as a rule we don't do any more.

1566. Q. Approximately, when you are loaded, what is your speed when under an order of half speed, and what on slow?—A. Half speed would be about six or seven miles, seven miles let us say, and slow usually four or five miles—about four miles an hour.

1567. Q. Loaded as you were, Captain, was there any sign of a rebound when your vessel touched the *Empress*?—A. There couldn't be.

1568. Q. Had you been going 10 knots with your full cargo of coal, and struck the *Empress* about amidships, do you think it would have been possible for you to have backed away at the instant of contact?—A. If my ship had been going full speed with the weight there was behind her, I think she would have gone right through the *Empress* pretty near.

1569. Q. Have photographs been taken, Captain Andersen, showing the nature and extent of the damage to your stem?—A. Yes.

1570. Q. Are these the photographs which I now show you?—A. Yes.

Mr. HAIGHT.—I will ask that these photographs be marked as Exhibits 7-A, 7-B, etc., for the *Storstad*. My Lord, I have ordered extra copies of these photographs for the entire court, and hope that we shall have them here by to-morrow night.

Lord MERSEY.—That will do very well indeed.

Cross-examined by Mr. Aspinall.

1571. Q. Now, Captain, do you often meet fog in the St. Lawrence river?—A. I have not been travelling the St. Lawrence for several years until this spring, and I went one trip this spring previous to the last one.

1572. Q. But have you met fog, while trading in the St. Lawrence?—A. Five or six years ago I was here as mate on another steamer.

1573. Q. And did you find it was a place where you often met with fog?—A. I have several times met with fog in the St. Lawrence river.

1574. Q. And do you give any instructions to your officers what they are to do if they are in charge of the ship, and you are not on the bridge when there is fog?—A. They have instructions to call me immediately if the weather is getting hazy or foggy.

1575. Q. They have instructions to call you immediately if it is getting even hazy?—A. Yes.

1576. Q. And that is a proper order to give, I suppose?—A. Yes.

1577. Q. In hazy weather or foggy weather you like to be on the bridge, Captain?—A. Yes.

1578. Q. In your opinion, Captain, was that order carried out on this occasion?—A. Not to the full extent.

1579. Q. Was it carried out to any extent?—A. As far as I understand my ship was just getting into the fog the minute he called me.

1580. Q. Looking backwards now, don't you think the officer ought to have called you some ten to fifteen minutes before?—A. I don't think he was in fog ten to fifteen minutes previous. I don't think he saw any fog ten or fifteen minutes previous.

Lord MERSEY.—He said he did.

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WITNESS.—He said he saw it over the land, but that is often seen on the land especially in the morning on account of the dampness on the land, but there would be none on the water.

By Mr. Aspinall:

1581. Q. Are you quite satisfied with his having called you when he did?—A. I should have wished to have been called before. . . although I don't think it would have made any difference.

1582. Q. Well now, when you did come up, it was about half a minute before this collision took place?—A. About that, I can't say exactly.

1583. About thirty seconds before the collision?—A. About that, I can't say. Time seems rather long when things like that are going to happen.

1584. Q. At any rate it was a very short time?—A. Yes.

1585. Q. And up to that time no one had seen fit to reverse the engines of the *Storstad*?—A. I don't think they considered it to be necessary.

1586. Q. Possibly not, but they had not in fact, had they?—A. No.

1587. Q. You came up from below, and when you got up I have no doubt you found you were then in thick fog?—A. We were in fog when I got up.

1588. Q. Thick?—A. It was very thick, but I have seen thicker.

1589. Q. Possibly, but it was very thick?—A. Yes.

1590. Q. So thick that when you saw the lights of the *Empress* they were how far off?—A. That is what I cannot tell exactly, but I said a ship length and a half or two ship lengths.

1591. Q. You say you have seen worse fog, but it was thick?—A. It was thick, yes.

1592. Q. And the first thing you did when you came on deck. . . . and I have no doubt properly. . . . was to go and reverse the engines?—A. The first thing I did.

1593. Q. Although you didn't even know when you got there that the vessel was in that vicinity?—A. I don't think when I got up, until I saw the vessel.

1594. Q. (Interrupting) But the first thing you did was to set your engines full speed astern?—A. Yes.

1595. Q. Didn't you think it should have been done by the officer before?—A. I don't think as long as the officer saw his red light on our port side.

1596. Q. But it was the first thing you did, although you did not see the vessel?—A. When I saw that vessel crossing my bow.

1597. Q. At any rate, that is the first thing you did, ordered your engines full speed astern?

By Lord Mersey:

1598. Q. If it had been done this calamity would not have occurred?—A. If any one had thought the other ship was crossing our bow they would have done it.

By Sir Adolphe Routhier:

1599. Q. If it had been done what would have been the consequence?—A. In this case, the consequence might have been that there would have been no collision.

By Mr. Aspinall:

1600. Q. You have told us that in this half minute you also had an opportunity of looking over the side to see if your vessel was moving?—A. That was just the minute I got out of my bunk.

1601. Q. (Interrupting) If you will pardon me, Captain, I think you anticipated what I had in my mind, I had not completed my question?—A. I apologize.

1602. Q. What did you think I was going to ask you?—A. If I was looking over the bridge.

1603. Q. I tell you what occurred to my mind, that in this very short space of time you had the opportunity to reverse the engines, to look over the side, to see if you

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were already stopped, and you had an opportunity to see the compass to see if you were all right?—A. You will pardon me, I don't think I said that.

1604. Q. Did you not? I don't want to mislead you?—A. I said the minute I got out of the door of my cabin I went right close to the rail like this here, and the ship is about eight to twelve feet above the water there, and I can't help seeing the water.

1605. Q. And very often we can't help seeing the water, but we don't look at it?—A. I didn't specially, either.

1606. Q. You didn't look at it specially, either?—A. No.

1607. Q. I have no doubt you look over the side of the ship often?—A. I don't stop to look over the side to look at the water.

1608. Q. Then may we dismiss this then, and say that you did not look over the side and say "my ship is stopped"?—A. I saw the water, and at the minute I was called I heard the two whistles, and I knew the ship should be stopped.

1609. Q. Now, what about this peeping into the binnacle, did you have a look there?—A. I got to the binnacle just the minute I saw the other ship.

1610. Q. And you have also told us you put her full speed astern?—A. I did.

1611. It is very important to your case that you should be stopped, isn't it?—A. She might have been stopped, but I don't think it is very important?

1612. Isn't it?—A. I don't think so.

1613. And it is very important you should not be swinging under any helm, that is very important?—A. She should not be swinging.

1614. Q. That is very important to your case?—A. Yes.

1615. Q. Do you think you really had these opportunities of taking observation of these things?—A. I think I had an opportunity of getting to the middle of the bridge to see the compass. That is a thing I generally do.

1616. Q. When you came up your state of mind was this: You knew of no ship is that vicinity?—A. I did not.

1617. Q. And according to your story you heard two long blasts sounded on your whistle?—A. Yes.

1618. Q. That would tell you that your ship was stopped in the water?—A. Yes.

1619. Q. If that was your state of mind, why did you at once ring full speed astern?—A. I did it when I saw the other ship.

1620. Q. Oh, I beg your pardon, you waited until you saw it?—A. That is what you might call no time.

1621. Q. Now, the people on the bridge before you came up, if they had been attending to the whistles of the other ship, whatever they were, ought to have appreciated that she was getting very close?—A. I don't think he had any reason to believe she was getting close.

1622. Q. What is the reason for whistling in a fog unless it is to give information as to where you are?—A. This is a little different, because when you have seen the ship and know the course, and when you saw the ship alter her course and show port to port, and the ship has been seen a few moments before, I think it is different.

1623. Q. I think what you mean to convey is this, that in view of the fact that before the fog shut her out the people on your ship had seen her, that therefore they were entitled to assume that she probably would pass safely port side to port side—A. Exactly.

1624. Q. But if they had been using their ears they must have known that the ship was quite close?—A. She couldn't come too close as long as they had seen her port light a point and a half on our port bow.

1625. Q. But they are not seeing anything now, she is shut out by the fog?—A. But there is no reason to believe she is going to alter her course to cross our bow, after she had altered her course to avoid collision.

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1626. Q. At any rate, your view is that your officer was entitled to say, it is all right when she is going to pass us safely port to port, and I need not trouble about her, and that he need not call you, and need not reverse his engines?—A. Exactly so.

1627. Q. And if he likes I suppose he might say I will give her a little more room by porting my helm?—A. That is what I don't know, but he got the orders not to change the course in fog unless absolutely necessary.

1628. Q. You gave him that order?—A. It is a standing order.

1629. Q. It is a very dangerous thing to do, to change your course in a fog?—A. Yes, it is.

Lord MERSEY.—What is that?

Mr. ASPINALL.—My Lord, he says he has given his officer a standing order not to change his course in a fog unless absolutely necessary, and I asked him if it was a dangerous thing to do and he said: yes, it was.

1630. Q. It is a constant cause of collisions, altering a course in a fog, is it not?—A. A very dangerous thing.

By Lord Mersey:

1631. Q. And this is what the *Empress* did?—A. It seems like it.

1632. Q. That is what you thought, was it?—A. I thought so.

By Mr. Aspinall:

1633. Q. What the *Empress* apparently did was this: having ported and got you red to red, then for no reason that you can suggest, she starboarded—except possibly she may have starboarded to get further from the land—but if the man on the bridge of the *Empress* had remembered what he had seen shortly before, that you were on his port bow, that would be a very risky thing to do, wouldn't it?—A. I think so.

1634. Q. I agree with you. Now, having done that, what the *Empress* further does is this, if her story be true, she blows two long blasts to tell you she is stopped—your officer didn't hear them—whereas, in fact, she was going ahead. That was a remarkable blunder for her to make, wasn't it?—A. I think it was.

1635. Q. I agree. The last blunder, if your story be right, is this: that having some five or six minutes before blown you a three-blast signal, which is later repeated, which would signify she was going astern, yet in fact when she comes in sight she is going eight to ten knots. That is an extraordinary blunder to make, isn't it?—A. To my mind it is.

1636. Q. I agree. And these are the three matters which you rely upon as charges of negligence against this vessel?—A. What I rely upon is just what I have seen. I saw the hull and lights, three or four points on my port bow. That is all that I have seen.

1637. Q. But Captain, you will agree with me that that is not quite all, because if you port your helm you may have her three or four points on your port bow?—A. I saw the compass myself. I can't tell to an eighth of a point or anything like that.

1638. Q. But apart from the fact that you saw the compass, you might have brought her on her port bow by porting your helm? Of course, if your compass says you did not alter the course, I agree—but just for a moment let us leave out your look at the compass—if you have ported your helm that would bring her three points on your port bow, would it not?—A. If the *Storstad* ported her helm that could bring her farther over on the port bow.

1639. Q. These are the three main charges of negligence you have against the *Empress*, are they not—that seems to be the outcome of the evidence?—A. That is so.

1640. Q. And can you give an explanation which commends itself to you for any one of these blunders that you allege were made by the *Empress*?—A. I cannot.

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1641. Q. Well, there is a matter that I do wish to challenge: you say you put your engines ahead, full ahead, for the purpose of keeping into the wound?—A. Yes.

1642. Q. Are you sure you gave that order?—A. I am absolutely sure. I answered the hail from the *Empress* and gave the order.

1643. Q. And how long did you go on?—A. That was just moments.

1644. Q. You did that for moments?—A. Yes, she got out of the hole so very rapidly, there was hardly time to think about anything.

1645. Q. Well, Captain, if you did it only for moments, do you think it ever had any effect on the ship?—A. I don't think it could have much effect on the ship.

1646. Q. Then you think this momentary going ahead had practically no effect?—A. No.

1647. Q. When you hit her, had your stern-way any effect on your ship?—A. I think it might have had a little. Of course, it takes a second to get the engines started.

1648. Q. Your view is that when you struck her there was forward-way on the *Empress*, and your ship had stern-way upon her, that not only were your engines reversing astern, but your ship was slightly moving astern?—A. No, I don't believe that.

1649. Q. You think your ship had still some headway upon her?—A. I think so.

1650. Q. Your case is, and I have no doubt you are right, that after the collision you did all you could to save life?—A. I did everything possible.

1651. Q. You say you did everything possible?—A. I did.

Mr. ASPINALL.—Speaking for myself, I do not wish to suggest the contrary.

By Mr. Newcombe:

1652. Q. Just one question, Captain, my learned friend put it to you that when you came up on deck you were in thick fog and immediately reversed, and you assented to that?—A. Yes.

1653. Q. Do I understand that you reversed or gave the order to reverse before or after you saw the lights of the *Empress*?—A. After I saw the lights.

1654. Q. Was it on account of the fog or by reason of seeing the lights of the *Empress* that you gave the order to reverse?—A. By reason of seeing the lights of the other ship.

1655. Q. Are you able to give the number of people you took on board from the *Empress*?—A. I am not. The pilot was there, and he was counting while they went over on to the *Lady Evelyn*.

1656. Q. Who?—A. The pilot was on board my ship at that time.

1657. Q. The pilot?—A. Yes.

1658. Q. He was on board when you took the survivors off the boats?—A. No, not when I took them on board my ship, but when they went on board the *Lady Evelyn*, the pilot came on board then I think.

1659. Q. Oh, the pilot came out on the *Lady Evelyn*, and that was some time after the collision?—A. Yes.

1160. Q. And you say he knows how many?—A. He counted 338, I think, but I was told that a lot of people went over besides what were counted.

1661. Q. And he has a record of that?—A. He has a record of the people he counted, yes.

By Mr. Gibsone:

1662. Q. Captain Andersen, is the *Storstad* a British ship?—A. She is a British-built ship owned by Norwegian people.

1663. Q. Is she marked with the Plimsoll mark?—A. She is marked with the Norwegian Veritas mark which corresponds to the Plimsoll mark.

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1664. Q. When she is loaded, was she drawing more water than allowed by the Veritas mark?—A. She was not. She was by a few inches at the time we left the dock at Sydney, on account of us having water on board to feed the boilers, but that was used up immediately we started and got out.

1665. Q. Is she provided with steam steering gear, Captain?—A. Yes, she is.

1666. Q. Was that in working order at the time of the collision?—A. It was in good order.

1667. Q. Was it working—I mean, was it actually being worked at the time of this accident?—A. I don't understand.

By Lord Mersey:

1668. Q. Were you making use of it?—A. No, I was not, not until after the collision.

1669. Q. Not until after the collision?—A. No.

By Mr. Gibsone:

1670. Q. So that the vessel at that time was being steered altogether by hand?—A. She was steered all the time by steam.

1671. Q. But the chief officer told us that having ordered the helm to be put to port and then afterwards hard-a-port, he instructed the third officer to help to put the helm over?—A. Perhaps the third officer watched the compass, and did it, that is likely, but it doesn't need more than one man to turn the helm.

1672. Q. What I want to get at is if the vessel was then being steered by steam it could scarcely be said to be necessary to have the third officer help to put the vessel over?—A. That is not necessary.

1673. Q. From the fact that the vessel carried so much dead weight was she very hard to steer?—A. She is not very hard to steer when she has way on her.

1674. Q. The suggestion I make is to ask you whether she was not very hard to steer owing to the very great weight she was carrying, in other words if she was not really overloaded?—A. She was not overloaded. We had 10,320 tons in her, and from that there is one per cent.

1675. Q. What freeboard did you have?—A. That I can't exactly remember, but it would be four feet and some odd inches.

1676. Q. So that her steering capacity was normal at the time?—A. It was normal.

1677. Q. What is the number of seamen on board her?—A. The number of the crew, all told, is a fixed number of 33, but on this trip here we usually carried more, and we had 36 or 38.

1678. Q. How many deckhands had you?—A. We had 14 including officers.

1679. Q. Apart from the officers, how many had you?—A. 11 I think.

1680. Q. Is eleven the right number?—A. Yes.

1681. Q. How many were on watch at the time this accident happened?—A. Five.

1682. Q. What were they?—A. Two officers, a quartermaster, a lookout, and one sailor.

1683. Q. How many men on the lookout?—A. One.

1684. Q. This sailor?—A. Yes.

1685. Q. Where was he placed?—A. On the stem.

1686. Q. On the forecastle head?—A. Yes, on the forecastle head.

1687. Q. Now with regard to the ship's boat of the *Empress* that you referred to, can you tell us whether that was a collapsible boat or not?—A. It was a collapsible boat as far as I could see, a big broad flat boat.

1688. Q. From where you were standing were you in a position to tell how many members of the crew of that boat were passengers?—A. No, I could not.

1689. Q. My instructions are that I am to ask you if it is not the case that that boat is the collapsible boat which was filled with passengers entirely, with the excep-

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tion of one member of the crew of the *Empress*, namely, a purser?—A. No, this is not the boat.

1690. Q. Are you quite sure of that?—A. I am quite sure of that. My own crew went in that.

1691. Q. I am not saying that your crew did not go into that too, but I am saying that when someone in the boat called out to you to furnish it with men, the only one of the crew of the *Empress* that was in that boat at all was one of the pursers?—A. That I couldn't say.

1692. Q. My instructions are, and I wish to ask you to enlighten the Court on the point as to whether it is not a fact that that boat had on board no sailors or firemen or seamen of any kind except the purser or one of the pursers, and that it was this purser who called out to you to furnish that boat with a crew, which you did?—A. There was no one asked me to furnish it with a crew, the boat I am referring to.

1693. Q. Well you told us of a boat that you did furnish with a crew?—A. Yes, one boat.

1694. Q. And that was a collapsible boat?—A. Yes.

1695. Q. Isn't that the one as far as you can know, that had on board only one of the pursers and no other members of the crew of the *Empress*?—A. That is a thing I don't know. When the boat came alongside, it landed just below my bridge, and I was looking right down on it, and there was some one with brass buttons, but I don't know who they were, nor I don't know how many.

1696. Q. Did that happen with regard to any other collapsible boat?—A. Not that I know of.

1697. Q. So that there was only one collapsible boat on which you furnished a crew?—A. That is what I saw myself.

1698. Q. Was the *Storstad* surveyed at any Canadian port?—A. The boilers were inspected at Sydney.

1699. Q. Had the hull been inspected?—A. The hull was not inspected.

1700. Q. The hull was not inspected?—A. No, we got permission to go on account of the inspector being somewhere else.

1701. Q. And that is still to be done?—A. Yes, it is to be done.

1702. Q. When were the boilers inspected?

LORD MERSEY.—What has all this to do with the case? What does it matter, Mr. Gibsone, whether the boilers were inspected or not?

MR GIBSON.—Well my Lord, that is the only question that I wish to ask, but I will withdraw it if your Lordship wishes.

LORD MERSEY.—I don't think it has any relevancy to the case.

At this point the Commission rose and adjourned until half-past two of the clock in the afternoon.

The Commission resumed at 2.30 p.m.

Examination of CAPTAIN ANDERSEN resumed:

By Mr. Haight:

1703. Q. You stated on your direct examination, Capt. Andersen, this morning, that there were standing orders that you should be called in case of a fog. I omitted to ask if there were any orders as to when you should be called in the event of no fog occurring?—A. I gave orders when I went below to be called six miles before the ship reached Father Point to take on the pilot.

1704. Q. Did you give any orders as to the course which should be followed to Father Point in reference to the vicinity of the shore?—A. Yes, sir, I did. When I
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went below we were off Matane and I gave orders to keep 45 miles off shore and not to get nearer.

1705. Q. And to call you when you were about six miles from Father Point?—A. Six miles from Father Point.

1706. Q. You have stated on your cross-examination that it is very dangerous to change your course in a fog. Do you mean that that is the general rule?—A. That is the general rule.

1707. Q. Why is it dangerous?—A. The danger is that it might mislead the other ship—the approaching ship.

1708. Q. You were asked on your cross-examination whether porting your wheel would not have brought the *Empress* on to your port bow. If the *Empress* had originally been two, three or four points on your starboard bow?—A. Impossible.

1709. Q. Wait till I finish the question—your porting your wheel would have brought the *Empress* on the port bow where you saw her unless your course had been changed a great deal?—A. We saw the *Empress* on the port bow.

1710. Q. But in answer to a question on cross-examination you did say that the porting of your wheel might have brought the *Empress* off two or three points on your port bow. That would depend, would it not, upon where the *Empress* was when you began to port?—A. Of course.

1711. Q. If she had been approaching you green to green and had got to within two or three lengths of you, is it your judgment that any portion of the wheel would have brought the *Empress* to the position in which you first saw her when she loomed up in the fog?—A. If she had time enough to swing sufficient she might have.

1712. Q. How much would she have swung?—A. If she was four points on our starboard she would have swung eight points, or something like that; I cannot say exactly.

1713. Q. You stated that you used the steam steering gear after the collision?—A. Yes.

1714. Q. Will you explain what you meant by that?—A. We always use the steam steering gear on the ship.

1715. Q. You use it when you turn your wheel?—A. Yes, always.

1716. Q. If your wheel is not turned the steam engine is not set in motion?—A. The wheel is connected with the engine.

1717. Q. From the time you left Sydney until you reached Montreal, was there any time at which your steering gear was out of order?—A. No.

Lord MERSEY.—What is the meaning of the question?

Mr. HAIGHT.—I understand Mr. Gibsone's idea was that perhaps we had navigated with hand gear before the collision.

Lord MERSEY.—I had thought of the suggestion and I had rather thought that the answer indicated that, at some time or other, hand gear was being used on the steam-boat.

Mr. HAIGHT.—The Captain was a little too technical and thus gave the idea that he had not used the steam gear, when the idea that he desired to convey was that there had been no change at that particular time.

By Mr. Haight:

1718. Q. Was there any hand gear ever used in connection with the accident or before or after?—A. Hand gear has not been used since the ship has been built unless to see that it was in order and that in port. We always use the steam gear.

1719. Q. The suggestion was made that possibly you were overloaded and for that reason your boat steered less promptly than she would under other circumstances? How often, since you have been in command, have you carried dead weight cargoes and been loaded up to your marks?—A. I have had several hundreds.

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1720. Q. In the present trade you always load a full cargo?—A. We always do and the ship steered all right after the collision up the river.

1721. Q. While you were making this complete circle and manoeuvring to get up as close to the *Empress* as you dared to save the lives of the passengers, did you have any difficulty in handling the vessel?—A. Not the least.

Witness retired.

Lord MERSEY.—Who is to be the next witness?

Mr. NEWCOMBE.—I think my learned friend will call the first officer of the *Empress*. Our Norwegian interpreter has not arrived and I am afraid we cannot call another witness from the *Storstad* to-day.

Lord MERSEY.—They all speak Norwegian?

Mr. NEWCOMBE.—They speak English very imperfectly and they prefer to testify in their own language.

EDWARD JONES, 1st officer, *Empress of Ireland*, sworn.

Mr. ASPINALL.—In regard to this and other witnesses, I do not propose to go into any minute detail beyond getting the story which they have to tell.

Lord MERSEY.—I think you are quite right.

By Mr. Aspinall:

1722. Q. Were you the first officer on the *Empress of Ireland*?—A. Yes, sir.

1723. Q. You hold a master's certificate?—A. Yes, sir.

1724. Q. Have you been for three and a half years with the Canadian Pacific Railway Company?—A. Yes, sir.

1725. Q. Did you keep watch on this occasion from twelve o'clock?—A. Yes, sir.

1726. Q. Twelve to four?—A. Yes, sir.

1727. Q. When you came on deck was the weather clear?—A. Yes, sir.

1728. Q. Did you find the Captain on the bridge?—A. Yes, sir, and the pilot.

1729. Q. Were you above Bic at that time?—A. Yes, above Bic.

1730. Did you pass through some fog?—A. Between Bic and Father Point.

1731. Q. On that occasion when you passed through that fog did you reduce your speed and blow your whistles for fog?—A. Yes.

1732. Q. Having got through it did you proceed on?—A. Yes.

1733. Q. Do you remember after you had dropped your pilot your vessel being put on a course of north 47 east magnetic?—A. North 47 east.

1734. Q. When you proceeded on did you see anything of Cock Point buoy?—A. Yes, sir.

1735. Q. Was it reported?—A. Yes.

1736. Q. Where from?—A. From the crow's nest.

1737. Q. Did you see anything of the *Storstad*?—A. Yes.

1738. Q. What did you see?—A. Two mast head lights.

1739. Q. Were they reported?—A. Yes.

1740. Q. At what distance about?—A. About six miles.

1741. Q. How did you judge it to bear?—A. About four points on the starboard bow.

1742. Q. Shortly after this did your master alter the course?—A. Yes.

1743. Q. What to?—A. North 76 east by compass.

1744. Q. About two points of alteration?—A. Yes.

1745. Q. How did that bring these two masthead lights?—A. About a point or a point and a half on the starboard bow.

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1746. Q. Did you travel on on that course?—A. Yes.
 1747. Q. Shortly after that, as you proceeded on, did you see fog coming off land?—
 A. Yes, coming off the south shore.
 1748. Q. Did you eventually run into it?—A. Yes.
 1749. Q. Before you ran into it did you still see the *Storstad*?—A. Yes.
 1750. Q. On which bow?—A. The starboard bow.
 1751. Q. After the fog had come on and you had run into it, did the master do anything?—A. Yes.
 1752. Q. What?—A. He reversed the engines.
 1753. Q. Who was working the telegraph?—A. I was.
 1754. Q. That was your duty?—A. Yes.
 1755. Q. What did you do?—A. I went from full ahead to full astern.
 1756. Q. You are sure about that?—A. Yes.
 1757. Q. Did you hear whether a blast was blown by the ship?—A. Three short blasts.
 1758. Q. When you heard the whistle was the other ship coming on?—A. Yes.
 1759. Q. It is difficult to locate it absolutely in the fog but where did you judge that to be?—A. On the starboard bow.
 1760. Q. Was your whistle sounded again?—A. Yes sir.
 1761. Q. How?—A. Three short blasts.
 1762. Q. Did you still see the *Storstad* advancing?—A. Yes.
 1763. Q. After that time did you blow any more blasts?—A. Yes.
 1764. Q. What were the blasts?—A. Two long blasts.
 1765. Q. What would that mean?—A. That the ship was stopped in the water.
 1766. Q. Did you see whether your Captain did anything to ascertain if she was stopped?—A. I saw him look over the side of the bridge.
 1767. Q. Did he leave the bridge and go elsewhere?—A. Yes, he went to the upper bridge.
 1768. Q. What he did I suppose you do not know?—A. I do not know.
 1769. Q. Did you still continue to hear the blasts of the *Storstad* coming on?—
 A. Yes sir.
 1770. Q. After a time did you see anything?—A. I saw her two masts.
 1771. Q. I have not asked in detail in regard to these whistles but I suppose the broadening was keeping the same bearing?—A. I could not say very well.
 1772. Q. At the time you saw her what did you see of her?—A. The masthead light.
 1773. Q. Nothing more?—A. No.
 1774. Q. You did not notice anything?—A. No.
 1775. Q. How close was she to you then?—A. About 100 feet.
 1776. Q. How was she bearing?—A. Seven points on the starboard bow.

By Lord Mersey:

1777. Q. At that time had your ship headway or was she stopped?—A. Stopped.
 1778. Q. What do you say in regard to the *Storstad*; had she headway or not?—
 A. She must have.
 1779. Q. Did you see anything?—A. No, sir.
 1780. Q. What is your answer? That you do not know?—A. I do not know.
 1781. Q. You do not know what?—A. I could not say whether she had headway or was absolutely stopped, sir.

By Mr. Aspinall:

1782. Q. Where were you standing at this time?—A. By the telegraph.
 1783. Q. Would that enable you to see the whole of the *Storstad*?—A. No, sir.

By Lord Mersey:

1784. Q. Do you mean to say that your engines were not working?—A. Yes, sir.
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1785. Q. I thought you said that you did not know whether she was making headway or not?—A. That was the *Storstad*.

1786. I am asking you about your ship; your engines were not working?—A. No, sir.

By Mr. Aspinall:

1787. Q. You were stopped?—A. Yes.

By Lord Mersey:

1788. Q. Are you sure about that?—A. Yes, sir, quite sure.

1789. Q. Is there anybody connected with your steamer who has suggested that you were moving?—A. ———

By Sir Adolphe Routhier:

1790. Q. Did you look at the water?—A. I did not.

By Lord Mersey:

1791. Q. Your captain says he did?—A. Yes, sir, I saw him looking over the side of the bridge.

1792. Q. By the sound of the engines, are you able to tell us that the engines were not revolving?—A. Yes, sir.

By Mr. Aspinall:

1793. Q. Can you tell that from the bridge?—A. Yes, there is an indicator on the bridge.

1794. Q. Apart from the indicator, is there a tremor of the ship which enables you to tell?—A. Yes.

1795. Q. You tell us that you could not say whether the *Storstad* had headway or not after you saw her lights?—A. Yes.

1796. Q. Could you see the whole of the *Storstad*?—A. No, sir.

1797. Q. You would not have an opportunity of judging in regard to her?—A. No, sir.

1798. Q. But she came on and hit you?—A. Yes.

1799. Q. I think we agreed as to where she struck you. When she struck you, or thereabouts, did you get any order from the captain?—A. Yes.

1800. Q. What was the order?—A. Go and see about getting the boats out.

1801. Q. You tell me that you saw your Captain once go up to the upper bridge?—A. Yes.

1802. Q. Did he do that more than once?—A. Twice.

1803. Q. And the order was to get out the boats? What did you do?—A. I took my top coat off and went along the boat deck.

1804. Q. On which side?—A. The starboard side. Just when I had got to No. 3 boat the siren went.

1805. Q. Your siren?—A. Yes, sir.

1806. Q. Did it give you any information?—A. Yes.

1807. Q. What?—All hands to the boats.

1808. Q. Did they respond?—A. As I proceeded along they were coming up the companion.

1809. Q. 'They' were the crew?—A. Yes, sir.

1810. Q. Did they go to the boats?—A. They did.

1811. Q. How many boats did you succeed in getting away from the ship?—A. Myself—three.

By Lord Mersey:

1812. Q. On which side?—A. The starboard side.

1813. Q. There were none got away from the port side?—A. Not as far as I know.

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By Mr. Aspinall:

1814. Q. Could you tell the numbers of the boats that you got away?—A. Nos. 1, 3 and 5.

1815. Q. Do you know whether any other boats got away? Do you know whether Nos. 9 and 11 got away?—A. I could not say whether they got clear of the davits.

1816. Q. Do you remember the ship turning over?—A. Yes.

1817. Q. What happened to you?—A. I was working at No. 1 boat and that went away from the davits with the falls. No. 3 got away clear and 5 clear. Then I went along to No. 7 and I was working around No. 7 boat and the list became so much now that we could not stand on the decks without getting hold of something. I slid to the water.

1818. Q. When you got in the water what next happened to you?—A. I was trying to get clear of the ropes and tackles that were floating around and I was picked up by one of the boats.

1819. Q. One of your own ship's boats?—A. Yes.

1820. Q. Which boat?—A. They told me afterwards that it was No. 9; I did not know myself.

1821. Q. Were there any of the ship's crew on the boat?—A. There were.

1822. Q. How many?—A. I could not say.

1823. Q. Were there any passengers in it?—A. They were all mixed up; I could not say.

1824. Q. What happened to the boat; what was done?—A. We got it filled up and went to the *Storstad*.

1825. Q. Then did you put the passengers out on the *Storstad*?—A. We did.

1826. Q. What did you do after that?—A. We went back again.

1827. Q. In the same boat?—A. Yes.

1828. Q. Did you take charge of this boat?—A. I did.

1829. Q. Did you save any people on the return?—A. We did; we saved eight ladies and three or four men.

1830. Q. How comes it that you did not save more on that occasion?—A. We could not see any distance. These we left on the *Eureka*.

1831. Q. Having taken that lot to the *Eureka* what did you do next?—A. We went back again.

1832. Q. The third trip?—A. The third time.

1833. Q. On this third occasion did you succeed in saving any more people?—A. No, sir, only four corpses, which we towed alongside of the *Lady Evelyn*.

1834. Q. But you saved nobody?—A. No, sir.

1835. Q. What did you do after that?—A. The Captain of the *Lady Evelyn* told me to come aboard, that he was going alongside the *Storstad*.

1836. Q. Did you go on board?—A. Yes.

1837. Q. Did you remain on board?—A. I did.

1838. Q. What steamer brought you to the shore?—A. The *Lady Evelyn*.

1839. Q. You left the *Storstad*?—A. I was not aboard the *Storstad*.

1840. Q. You remained in your boat?—A. Yes, and went on board the *Lady Evelyn*.

1841. Q. And you were taken where?—A. To Rimouski.

Cross-examined by Mr. Haight:

1842. Q. How long have you been on the Canadian Pacific Railway steamers?—A. Three and a half years.

1843. Q. During that time you have been running continuously from Montreal?—A. Montreal and St. John.

1844. Q. You were the second mate in the order of rank?—A. Yes, sir.

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1845. Q. You have made a large number of trips from Montreal?—A. Yes, but not in the *Empress of Ireland*.

1846. Q. But in other steamers of the line?—A. I have, sir.

Q. Usually after you have dropped your pilot at Father Point, when does the master leave the bridge in command of the mate?—A. When he gets his course off Cock Point buoy when the weather is clear.

1847. Q. The steamer drops her pilot and then starts out into the river?—A. Yes, sir.

1848. Q. And as soon as you have ported your wheel to approximately North 72 East magnetic the master considers that his vessel has started on the voyage and if everything seems all right he goes below?—A. Yes, if the weather is clear.

1849. Q. When you left Father Point light on the occasion of the collision was the weather clear?—A. Yes, sir.

1850. Q. When you ported your wheel and took the course of North 72 East magnetic was the weather still clear?—A. That is at Cock Point buoy?

1851. Q. When you actually changed your course with a portwheel was the weather clear?—A. It was clear, sir.

1852. Q. Under ordinary conditions then it would have been quite the proper and quite the ordinary course for the master to go below?—A. That is all up to the Captain.

1853. Q. That would have been the ordinary procedure?—A. Yes, sir.

1854. Q. From the time you dropped your pilot did Captain Kendall never leave the bridge except to go to the upper bridge?—A. No, sir.

1855. Q. When you went into the fog, Mr. Jones, and heard the whistle blown by the *Storstad*, about how much did that sound on your starboard bow as well as you could roughly estimate?—A. About two points.

1856. Q. Did they at any time before the *Storstad* came into view sound to you much more than two points?—A. I could not say.

1857. Q. Did you notice any very radical change in the direction from which the sound of the whistle came?—A. Not very much.

1858. Q. When you first saw the lights of the *Storstad* she was bearing, as I understand you, about four points on your starboard bow and she was then six miles or more away?—A. Yes, sir.

1859. Q. When your course was changed she was bearing less on your starboard bow?—A. Yes.

1860. Q. When you first saw her you were on your course to carry you out towards the centre of the river?—A. Yes, sir, about five miles from Little Metis.

1861. Q. When you first saw the masthead lights of the *Storstad* did you see which way the range was opened?—A. They were nearly in a line when I first saw them.

1862. Q. You understood that she was a steamer bound up the St. Lawrence river?—A. Yes.

1863. Q. You understood also that you had her on your starboard hand?—A. Yes, sir.

1864. Q. And having her four points on your starboard you were steering a course to cross her?—A. Yes.

1865. Q. Up to the time the fog set in she was still bearing on your starboard bow?—A. She was.

1866. Q. And in the difference between the time that the fog set in and the time you first saw her she was not as much on your starboard bow as she had been before you ported?—A. No, sir.

1867. Q. As far as you could see, therefore, the vessels were still in a starboard hand position when the fog shut you out?—A. Yes.

1868. Q. Had you been in command of the *Empress*, Mr. Jones, would you not have considered that the starboard hand rule required you to port to bring the lights of the

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Storstad on to your port bow and show her your red to her red?—A. That all depends on the distance away.

1869. Q. Taking the actual distance she was away when the fog shut her in, when you had her still on your starboard bow in a crossing position, would you not have considered that Rules 19 and 22 called upon you to port show red to red and pass under her stern?—A. Not the way she was bearing, sir.

1870. Q. That would have been absolutely safe manœuvring, would it not?—A. No, sir.

1871. Q. Why not?—A. Because it might be green to green.

1872. Q. In answer to the direct examination you have not referred to the fact that you saw any coloured lights from the *Storstad*?—A. No, sir.

1873. Q. When did you first see the coloured light of the *Storstad*?—A. I did not see the coloured lights.

1874. Q. Then you do not know if it were green to green except by your conclusion from some other fact?—A. I could have told by the two masthead lights that she would be showing her green light.

By Lord Mersey:

1875. Q. Where were you?—A. On the bridge.

1876. Q. I do not understand why you did not see the green light?—A. I did not see it. I could only see the two masthead lights.

By Sir Adolphe Routhier:

1877. Q. But not the green light?—A. No, sir.

By Lord Mersey:

1878. Could you have seen the green light if you had looked?—A. I could with the binocular.

1879. Q. You did not see it?—A. No.

By Mr. Haight:

1880. Q. Did you see any other light when you used your binoculars?—A. I saw the two masthead lights.

1881. Q. You saw no side lights at all?—A. No, sir.

By Lord Mersey:

1882. Q. At what distance was this?—A. About four miles.

By Mr. Haight:

1883. Q. As I understand you, when you first saw the *Storstad* she was about six miles away from you?—A. Yes, sir.

1883. Q. When you think she was showing you her green light she was about four miles away?—A. Four miles approximately.

1884. Q. The combined speed of the two vessels had brought you two miles closer together?—A. Yes, sir.

1885. Q. What speed do you think you were making at that time?—A. About 17.

1886. Q. What course were you on when you saw her white masthead lights?—A. North 50 East.

1887. Q. That is North 47 magnetic?—A. North 47 magnetic.

1888. Q. Were you still on that course when you made up your mind to make green to green or had you ported?—A. No, sir, we were North 76 East by compass.

1889. Q. How long was it before you used your binoculars to see if you could see a coloured light after you had ported your wheel and changed your course?—A. Just after we had altered our course.

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1890. Assuming that you left the pilot station, or dropped your pilot and started ahead again, at 1.20, how long do you think it was after that that you saw the mast-head lights of the *Storstad*?—A. About 18 minutes.

1891. Q. How many minutes after you saw it before you ported your wheel?—A. Between two and three minutes.

By Chief Justice McLeod:

1892. Q. After you saw the light?—A. Yes, sir.

By Mr. Haight:

1893. Q. How much time elapsed between your first signal of three whistles and the second signal of three whistles?—A. From Father Point, sir.

1894. Q. No, sir; you blew a signal of three whistles?—A. We did, sir.

1895. Q. Or some such proceeding after you had reversed your engines?—A. Yes, sir.

1896. Q. Then you subsequently blew a second signal of three whistles?—A. Yes.

1897. Q. How many moments elapsed between these two signals?—A. Two minutes.

1898. Q. Did you make any precise observation of that?—A. No, just judging the time.

1899. Q. How long from the first signal of three whistles blown was it that you lost sight of the *Storstad*?—A. We could see her masthead lights very dim.

1900. Q. You got an order from Captain Kendall to put your engines full speed astern while the lights of the *Storstad* were still visible?—A. Yes sir.

1901. Q. How far do you think she was away from you at that time?—A. Between three and four miles.

1902. Q. She was bearing how much on your starboard bow?—A. I could not say the exact bearing but it was on the starboard bow.

1903. Q. A point or two?—A. Two or three.

By Chief Justice McLeod:

1904. Q. Was there any danger of a collision?—A. No sir.

By Mr. Haight:

1905. Q. When you have a vessel three or four miles away from you, bearing two or three points on your starboard bow, and you still see her lights, is it not a rather unusual manœuvre to put your engines full speed astern?—A. No sir.

1906. Q. Why, with four miles of water between you, and a vessel three points on your starboard bow, do you put your engines full speed astern?—A. To take the way off the ship and navigate with caution.

1907. Q. You knew that there was no other vessel but the *Storstad* in your vicinity?—A. No sir; we did not see any.

1908. Q. But you looked?—A. Yes sir.

1909. Q. As you came out from Father Point the horizon was clear and the *Storstad* was the only ship in view; is that so?—A. Yes, sir.

1910. Q. If you have only one ship to consider and her lights are still visible, have you ever before in your experience put your engines full speed astern?—A. I never have been before in that predicament.

By Lord Mersey:

1911. Q. You were four miles apart; isn't that so?—A. Yes, sir.

1912. Q. With this ship on your starboard bow?—A. Yes.

1913. Q. Four miles, you say. Now, will you tell me why it was that you reversed your engines?—A. Fog was coming on, sir, and to take the way off the ship.

1914. Q. There was only one ship in sight?—A. Yes.

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1915. Q. Was the object, then, to comply with the rules?—A. Yes, sir.

1916. Q. Which rule?—A. Rule 15, sir.

1917. Q. You mean Rule 16:—

“Every vessel shall, in a fog, mist, falling snow or heavy rain storms, go at a moderate speed, having careful regard to the existing circumstances and conditions.”

That really did not require you to stop?—A. No, sir.

1918. Q. (Reading)—

“A steam vessel hearing, apparently forward of her beam, the fog signal of a vessel the position of which is not ascertained, shall, so far as the circumstances of the case admit, stop her engines, and then navigate with caution until danger of collision is over.”

I suppose you had ascertained the position of the *Storstad*?—A. Yes, sir.

1919. Q. This rule did not require you to stop? Were you reversing your engines in order to moderate your speed?—A. Moderate the speed.

By Sir Adolphe Routhier:

1920. Q. Did you consider that there was then any danger of collision?—A. No, sir.

By Mr. Haight:

1921. Q. As I read this, Mr. Jones, it speaks of a steam vessel hearing a fog signal of another forward on her beam; that really applies and is intended to apply to vessels which are heard through a fog but which have not been previously seen and whose position is not known. Is that not so?

LORD MERSEY.—Do you put your question again.

By Mr. Haight:

1922. Q. The rule, as I understand it, applies where vessels are heard in a fog before they have been seen, and where you hear the whistle of another vessel approaching bearing forward on the beam. Am I not correct?

LORD MERSEY.—You must not ask him to interpret the rules. That is not what the rule says, you know.

Mr. HAIGHT.—He refers to this particular rule as his justification.

LORD MERSEY.—The last part of the rule is not limited at all to cases where there are other ships visible, or where other ships would be sighted. Every vessel shall in a fog, go at a moderate speed. That is what it says. Then the second part says. ‘A steam vessel hearing apparently forward of her beam the fog signal of a vessel the position of which is not ascertained,’ so and so. There are two parts to that rule; it was under the first part apparently that he was acting.

By Mr. Haight:

1923. Q. Is there anything in the rules as you understand them which calls upon a vessel to do more than come down to a moderate speed? Is there anything that suggests that you must back until your vessel is dead in the water and becomes absolutely inert and motionless?—A. Yes, sir.

1924. Q. What is that?—A. That is to ascertain the position of the other ship before I have any headway on my own ship.

LORD MERSEY.—What is that?—A. To take the way off my own ship and then ascertain the position of the other ship.

By Sir Adolphe Routhier:

1925. Q. And had you ascertained the position of the other ship?—A. No, we could not see her lights.

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1926. Q. Then it was the second part of the rule that was being complied with?—A. Yes, sir.

1927. Q. Did you not anticipate that she would, as required by the rules, hold her course?—A. I could not say, sir.

1928. Q. I am speaking about you. So far as you were concerned, did you see anything to indicate that the *Storstad* as a starboard hand boat, would not maintain her course?—A. No, sir.

1929. Q. Do you know of any reason why a change in her course should have been anticipated?—A. I could not say, except she was too far in shore and coming out.

1930. Q. How far do you think she was off shore when you first sighted her?—A. I could not say, sir.

1931. Q. She was four or five miles, wasn't she?—A. She might have been.

1932. Q. So there was no reason to assume that she would be afraid of the shore if it was four miles away?—A. I could not judge what distance from the shore she was.

1933. Q. The depth of water runs right in close to the land, does it not?—A. Yes, until it gets up to Cock Point buoy.

1931. Q. If the *Storstad* was three points on your starboard bow and four miles away and the vessels were showing green to green, can you state approximately how far apart the vessels ought to have cleared?—A. No, sir.

1932. Q. It would be something over a mile and a half, wouldn't it?—A. I could not give it to you.

1933. Q. Is it usual when you put your engines astern to moderate your speed, to keep them going until you have absolutely lost control of your ship?—A. Yes, sir.

1934. Q. If you adopted that manœuvre, with the vessel on your starboard side, and you are on crossing courses, the inevitable result would be that you would stop dead in the water directly ahead of her?—A. On this particular point we were not a crossing ship; we passed the bearing.

By Lord Mersey:

1935. Q. You would cease to be crossing ships?—A. Yes, sir.

By Mr. Haight:

1936. Q. Having passed and having got the vessels into the green to green position, you still think it was ordinary navigation to put your engines full speed astern?—A. We were supposed to be in opposite courses.

1937. Q. After the second signal of three whistles was blown, how long was it before you blew the signal of two whistles?—A. Immediately the captain looked over the side he stopped the engines and then he gave two long blasts on the whistle.

1938. Q. That does not help me exactly on the particular point I am interested in now. How long was it between the second signal of three whistles and the first signal of two whistles?—A. A matter of a few seconds. Oh, the first; it would be about two and a half seconds.

1939. Q. That is the first you blew, three whistles?—A. Yes, sir.

1940. Q. Two minutes later you blew three whistles again?—A. Yes, sir.

1941. Q. Two minutes and a half later you blew—A. No, sir, a few seconds later.

1942. Q. So that when you blew your second signal of three whistles you think your vessel was nearly stopped?—A. She was, sir.

1943. Q. How long do you think you remained motionless in the water before you saw the *Storstad* come out of the fog?—A. She was stationary while I was on the bridge.

1944. Q. How long, Mr. Jones?—A. It must have been five or six minutes.

1945. Q. You have told me that you ran, you think, about 17 minutes north 47 east. How long do you think you ran north 72 east?—A. Seventeen minutes on north 50 east?

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1946. Q. Am I wrong? How long did you run north 47 east?—A. Eighteen minutes.

1947. Q. How long did you run full speed ahead, north 72 east?—A. Three or four minutes.

1948. Q. After that three or four minutes that you ran full speed ahead, you went full speed astern until your vessel was dead in the water?—A. She was, sir.

1949. Q. And from that time until the collision, your vessel remained dead in the water?—A. Yes, sir.

1950. Q. You have stated that when the two vessels came into view, you could not see whether the *Storstad* was moving or not?—A. Could not see, sir.

1951. Q. On which side of the bridge were you standing at that time?—A. Star-board side, sir.

1952. Q. How near the end of the bridge? Close to the rail?—A. No, sir, about half way in.

1953. Q. Where was Captain Kendall standing?—A. At the time, just a little to the right of me.

1954. Q. How many feet away from you?—A. A matter of three or four feet.

1954½. Q. So that you had the same opportunity for seeing the *Storstad* that he had.—A. No, sir, I was a little abaft of him, standing by the telegraph.

1955. Q. Could you see the entire stem of the *Storstad*?—A. No, sir.

1956. Q. How much did you see of her?—A. I could not see any.

1957. Q. What did you see?—A. The masthead lights.

1958. Q. 100 feet away?—A. About 100 feet.

1959. Q. Was it so thick you could not see the outline of her at all?—A. It must have been.

1960. Q. You could see the water over your starboard side?—A. No sir.

1961. Q. Why not?—A. I did not look.

1962. Q. Were you in a position where the water was visible or did your deck line shut it out?—A. The screen around the bridge was about 4 feet high.

1963. Q. The height of the screen or canvass around your bridge is how much from the deck?—A. The front part would be between 4 and 5 feet.

1964. Q. What about the side?—A. The side is about three feet on the after end of the bridge.

1965. Q. How many feet do you think you were inside of the actual range?—A. Twenty feet.

1966. Q. And Captain Kendall was about 17 feet?—A. About.

1967. Q. You didn't see any bow wave as the *Storstad* approached did you?—A. No, sir.

1968. Q. Did you hear Captain Kendall hail the approach of the *Storstad*?—A. I did, sir.

1969. Q. Did you hear the answer?—A. No, sir.

1970. Q. How did the vessels appear to you to swing after they came together?—A. I could not see, sir; I was working at the boats.

1971. Q. Did you leave the bridge before the instant of contact or after?—A. I did, sir, before.

1972. Q. And you came down the starboard side of the bridge?—A. I came along the starboard side of the bridge.

1973. Q. Was the point forward or aft of the boats on which you were working?—A. Aft, sir.

1974. Q. How close to the bridge is No. 1 boat?—A. It is a matter of a few feet.

1975. Q. Did you leave Captain Kendall on the bridge?—A. I left him on the bridge with the junior officer.

1976. Q. What did you do first when you came down to the boats? Did you go to No. 1 first?—A. No, sir; I came along the deck and whilst I was there, just opposite

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No. 3 boat, the *Storstad* had collided, then I came along by No. 5 boat where the companion is for the men to come up. Then we went off to No. 1 and started swinging the boats.

1977. Q. It only took a matter of a few seconds?—A. Well, not very long.

1978. Q. Did you go down the deck?—A. Yes.

1979. Q. You went as fast as you could?—A. Yes.

1980. Q. What did you have to do in order to get the boats out?—A. Take the gripes off.

1981. Q. Did you release the gripes on No. 1?—A. One of them; yes, sir.

1982. Q. And the other men released the other?—A. Yes.

1983. Q. Did you and your men release the gripes on No. 2?—A. I did not myself, but my men did.

1984. Q. Did you say your men released the gripes on No. 5?—A. No, sir.

1985. Q. Do you know who did release those gripes?—A. I could not say.

1986. Q. Where were you when No. 5 was being got ready?—A. I was working forward with No. 1 boat.

1987. Q. Did you say your men released the gripes on Nos. 1 and 3?—A. One and three, yes.

1988. Q. Did you see Captain Kendall releasing gripes?—A. I did not know who was who. I was not looking for anybody; I was trying to get the boats out.

1989. Q. At least, so far as you were concerned, you know that you and your men released the gripes on 1 and 3?—A. One and three.

1990. Q. He did not release those gripes, anyhow?—A. Not them, no, sir.

LORD MERSEY.—Does this matter affect you, the *Storstad*?

MR. HAIGHT.—Only, my Lord, as it goes to credibility.

LORD MERSEY.—Credibility?

MR. HAIGHT.—I understand Captain Kendall's story to be that he himself left his bridge and released all the gripes.

LORD MERSEY.—I did not know that; whether or not that is so, does this particular point go to credibility?

MR. HAIGHT.—The last two questions do, my Lord.

By Mr. Haight:

1991. Q. Mr. Jones, will you tell me what rule authorizes the use of a three whistle signal in a fog?—A. Sixteen.

1992. Q. Sixteen does not refer to any signals. As I see the rules, 15 is headed: 'Sound signals for fog.' Twenty-eight gives sound signals for vessels in sight of one another. It seems to me that a signal of three whistles blown when a vessel has head-way in a fog does not give the information that fog signals are supposed to give.

LORD MERSEY.—It does not, unfortunately.

MR. HAIGHT.—It does not give any at all, my Lord, and I thought Mr. Jones would be helpful if he would indicate if there is any place in his rules—

LORD MERSEY.—Three short blasts mean: My engine is going full speed astern.

MR. HAIGHT.—And by the rules, they are to be blown, my Lord, when vessels are in sight of one another.

LORD MERSEY.—They are blown when vessels are in sight of one another, but suppose they are blown when vessels have been in sight and after they are obliterated by the fog; what harm does it do?

MR. HAIGHT.—It seems to me that as long as a vessel is under way she should be blowing a running whistle.

LORD MERSEY.—What do you mean by 'running'?

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MR. HAIGHT.—One long blast which indicates: I have way through the water.

LORD MERSEY.—But supposing she is going astern.

MR. HAIGHT.—You mean, supposing her engines are going astern?

LORD MERSEY.—Yes. How is she to indicate that circumstance, which may be of considerable importance, except by blowing three short blasts?

MR. HAIGHT.—In the rule as it reads it is not specifically provided, but I should say, my Lord, that if a man wants to tell approaching vessels: I have started my engines going full speed astern, but my headway is still 12 or 14 knots, he should blow three blasts, followed immediately by a running whistle, to say: My engines are going astern.

LORD MERSEY.—Have you heard of that being done?

MR. HAIGHT.—I do not recollect; I know of no rule.

LORD MERSEY.—You are advising now a new signal?

MR. HAIGHT.—I am not intending to advise a new signal; I am intending—

LORD MERSEY.—Can you find this signal which ought, you say, to consist of three short blasts and then a running whistle?

MR. HAIGHT.—It may be your Lordship's province to suggest an amendment of the rules, but my intention was to call attention merely to the fact that the signal of three whistles is specifically stated by the rules as they now stand before amendment as applying only when vessels are in sight.

LORD MERSEY.—But this poor young fellow in the box can deal only with rules that are in existence; rules that may be devised he knows nothing about.

By Mr. Haight:

1993. Q. How long have you been second senior officer on 'the *Empress*?—A. One voyage, sir.

1994. Q. Was this the first voyage, you mean?—A. It was, sir.

1995. Q. Then you had joined the *Empress* for the first time when she left Quebec on this voyage?—A. No, sir, I was two voyages second officer.

1996. Q. That is, third in seniority?—A. Yes.

1997. Q. The two voyages immediately preceding?—A. Yes, sir.

1998. Q. And this was the first voyage that you had made second in seniority among the officers?—A. It was, sir.

1999. Q. How long have you held a master's certificate?—A. Twelve years, sir.

2000. Q. During the three years or more that you have been on the C.P.R. boats, Mr. Jones, can you now recall any other occasion on which your engines have been put to full speed astern, when the vessel was four miles away, green to green, and there points on your starboard bow?—A. I have not been in that predicament before.

2001. Q. Do you remember any occasion on which the engines have been put full speed astern and a vessel four miles away, no matter how she bore?—A. No, sir, not before.

By Mr. Newcombe:

2002. Q. Mr. Jones, when you went up to the northward from Father Point on the course north 47 east, it was on that course that you observed the head lights of the *Storstad* approaching from down river?—A. It was.

2003. Q. They were nearly in line, I think you said?—A. Yes, sir.

2004. Q. You would have a very broad bearing with the *Storstad* in crossing her?—A. Yes, sir.

2005. Q. Five points perhaps?—A. Yes, sir.

2006. Q. You already crossed and got considerably to the northward of her course before you changed to north 76 east?—A. Yes, sir.

2007. Q. In those conditions the *Storstad* could have never seen your red light?—A. No, sir.

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2008. Q. Absolutely never?—A. No, sir.

2009. Q. Now then, you have been in court and heard the testimony of the Norwegian witnesses?—A. Yes, sir.

2010. Q. After going northward of the *Storstad's* course, when you changed to north 76 east, did you have any trouble to put your ship on that course?—A. None whatever, sir.

2011. Q. Are you prepared to say that she did not go to the southward of that course at any time before she took the course?—A. No sir.

2012. Q. You think she did not wobble at all?—A. No sir.

2013. Q. You say she did not have to sheer round?—A. No sir.

2014. Q. Of course you were looking at the *Storstad*? You used your glasses?—A. I did, sir.

2015. Q. Apparently, if I understand Captain Kendall's evidence, he was able to see coloured lights that you were not able to see?—A. I did not see them, sir.

2016. Q. Now, did you go on the *Empress* at the same time that Captain Kendall did?—A. No sir, not the same time as Captain Kendall.

2017. Q. He has been longer on the steamer than you?—A. No, he has only one voyage.

2018. Q. You have been with him during the whole time he was on the *Empress*?—A. Just one voyage, yes sir.

2019. Q. What do you say about the distance within which, from a speed of 17 knots, you can stop your ship going under reversed helm?—A. Two minutes, sir. I saw it tried.

2020. Q. And in the space of two ship's lengths, as Captain Kendall says?—A. Oh yes, sir.

2021. Q. You saw that tried?—A. I saw that tried by Captain Murray, sir.

2022. Q. Whereabouts?—A. Off Point Lynas.

2023. Q. That is on the Welsh Coast, is it?—A. Yes sir.

2024. Q. What course were you going on at that time? What time of day was it when you tried that experiment?—A. It was about between 12 and 1.

LORD MERSEY.—Are we off Lynas now?

MR. NEWCOMBE.—I was trying to test the question as to the space of time in which he could stop.

By Mr. Newcombe:

2025. Q. At all events, you say that with fair conditions of wind and tide, you made a test there, and you found that you could stop in two minutes, in two ship's lengths?—A. We did, sir.

2026. Q. Your intention and object in reversing, as I understand you, was to take the way off the ship so as to stop in the fog?—A. It was, sir.

2027. Q. You reversed and gave three whistles?—A. Yes, sir.

2028. Q. You waited two minutes?—A. Yes, sir.

2029. Q. And you gave three whistles again?—A. Three whistles again.

2030. Q. Your ship should have been stopped when you gave the three whistles?—A. Absolutely, sir.

2031. Q. What did you do when you gave the last three whistles?—A. Stopped, sir.

2032. Q. You are satisfied you didn't go astern?—A. No, sir.

2033. Q. Do you know anything about the wireless call after the collision?—A. No, sir.

2034. Q. Do you know anything about the closing of the bulkhead doors?—A. No, sir.

2035. Q. About the closing of the ports?—A. No, sir.

2036. Q. The discipline on board after the accident; was it good?—A. It was good, sir.

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2037. Q. You have no complaint to make about that?—A. None whatever, sir.

2038. Q. Can you give any explanation as to why the vessel sank so quickly?—

A. It must have been the terrible—

Lord MERSEY.—I think, Mr. Newcombe, that I can.

Mr. NEWCOMBE.—Well, if your Lordship is satisfied.

By Mr. Haight:

2039. Q. Mr. Jones, will you be good enough to take a chart and indicate on it the course of the *Empress* from the time she left Father Point, the positions in which you first saw the lights of the *Storstad*, the position, so far as you can give it, of the *Storstad* when the lights were shut out by the fog, and your position at the time of the collision?

Lord MERSEY.—Do you not think it would be better to recall Captain Kendall and ask him to do that? I do not know, you know; I am simply suggesting it to you?

Mr. HAIGHT.—If your Lordship has no objection I should like this officer to do it.

Lord MERSEY.—Certainly; you shall have both if you like.

Mr. HAIGHT.—Perhaps he could do that after his other examination has been concluded.

Lord MERSEY.—I think that would be better. Let us finish his *viva voce* examination; then he shall go down and mark on the chart the movements of the two vessels.

Mr. HAIGHT.—The movements of both vessels up to the point of contact, and the direction from which the contact comes.

Lord MERSEY.—According to his story, of course.

Mr. HAIGHT.—Precisely, as he saw it.

By Mr. Gibsone:

2040. Q. When you were on the boat deck removing the gripes from the boats, did you see any passengers on that deck?—A. No, sir, I wouldn't know anyhow.

2041. Q. I am speaking about the starboard side of the boat deck?—A. Yes.

2042. Q. Did you see any passengers then?—A. I wouldn't know them if they were.

2043. Q. Would you not be able to distinguish between the crew and passengers?—A. Not at night. It was dark.

2044. Q. Was there any confusion on the boat deck when the boats were being swung out?—A. None whatever.

2045. Q. If you could not recognize the passengers you cannot say, I suppose, whether the passengers were being attended to by the crew?—A. I couldn't say.

2046. Q. Did you notice if there were any passengers on the port side?—A. I was not on the port side.

2047. Q. You couldn't see across?—A. No.

By Lord Mersey:

2048. Q. Do you wish to re-examine this witness, Mr. Aspinall?

Mr. ASPINALL.—No, my Lord.

Lord MERSEY.—Mr. Haight asked for something to be done on the chart. It seems to me that if that is to be of any service to us it would be desirable for Captain Kendall to take the chart, and for this witness to do the same, and also the other man—I have forgotten his name, but the man who was on the bridge of the *Storstad*—his name begins with a T—he should also take the chart and they should make, not in conjunction but separately, a drawing on the chart of what they say the movements of these two ships were from the time they first sighted each other up to the time of the collision. That is, if in your opinion it is of importance.

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Mr. ASPINALL.—I do not think it is. I have no doubt, however, that Captain Kendall is in court and we will have three charts and have Captain Kendall make one and Mr. Jones make one and Mr. Toftenes, the first officer of the *Storstad*, make another, all separate.

My Lord, I am told we have bought out the shop of all the charts that are available in Quebec.

Lord MERSEY.—The supply is exhausted.

Mr. NEWCOMBE.—I have one here that you may have.

Lord MERSEY.—Well, we should not let one man see what the other has done.

Mr. ASPINALL.—And might I suggest, my Lord, that each man should do it alone, without any assistance, though I would not suggest that anything improper would be done on either side.

Lord MERSEY.—Yes, each must do it alone—now how many charts have we in court. We have one here, I believe.

Mr. ASPINALL.—We have two, my Lord.

Lord MERSEY.—And is two the whole stock in Quebec?

Mr. ASPINALL.—I have one and my learned friend Mr. Newcombe has one.

Lord MERSEY.—Mr. Haight, have you one?

Mr. HAIGHT.—Mine is very much disfigured, my Lord, by a great many diagrams.

Lord MERSEY.—Well, are there any blue or red pencils?—A. Have you one of these charts, Mr. Newcombe?

Mr. NEWCOMBE.—I have, my Lord.

Lord MERSEY.—Captain Andersen knew nothing about it—he only came on the bridge a few seconds before the collision took place, so it would be useless to ask him to do that. Now, is Captain Kendall in Court?

Captain KENDALL.—Yes, my Lord.

Captain KENDALL re-examined.

Lord MERSEY.—Are you able on a chart to mark what you say was the course of your ship?

Captain KENDALL.—Yes, my Lord.

Lord MERSEY.—Will you be able to indicate what you think was the course of the *Storstad*?

Captain KENDALL.—Well, my Lord, the charts are on rather a small scale.

Lord MERSEY.—Well, I have no doubt they are.

Captain KENDALL.—They are too small to give a very exact location.

Lord MERSEY.—What is the scale of these charts?

Mr. ASPINALL.—Between four and five miles to the inch, my Lord, I believe.

Lord MERSEY.—Now, Captain Kendall, will you take one of these charts and to the best of your ability mark the course which you say your ship took?

Captain KENDALL.—Yes, my Lord.

Lord MERSEY.—Well, you had better take it and go into some room back there and do it.

Captain KENDALL.—Yes, my Lord.

Lord MERSEY.—You had better take a coloured pencil for that—how long will it take you to do it, Captain Kendall?

Captain KENDALL.—A matter of five minutes at most.

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LORD MERSEY.—Then go and do it, and we will wait for you six or seven minutes, and then when you come back we will send some one else. I hope you don't want all the witnesses to do it, do you, Mr. Haight?

MR. HAIGHT.—My only request was that the second officer should do it.

LORD MERSEY.—And you know that your man is to do it as well?

MR. HAIGHT.—Yes, my Lord.

LORD MERSEY.—Who is your next witness?

MR. ASPINALL.—Our next witness will be John Carroll, the look-out on the *Empress of Ireland*.

JOHN CARROLL, able seaman, *Empress of Ireland*, sworn.

By Mr. Aspinall:

2049. Q. Were you serving as an A.B. on board the *Empress of Ireland* at the time of the collision?—A. Yes, sir.

2050. Q. How long have you been at sea?—A. About thirty years, sir, off and on.

2051. Q. How old are you?—A. Well, I gave 48 when I was signing, sir, I don't know my proper age, sir.

2052. Q. You haven't got your eye on an old age pension?—A. Not yet, sir; after a while, sir.

2053. Q. Well, now, were you in the 12 to 4 watch?—A. Yes, sir.

2054. Q. And did you go up at twelve?—A. Yes, sir, on deck.

2055. Q. And at first did you do some job of sweeping, and stand-by, and then at two, that is four bells?—A. I relieved the look-out, sir.

2056. Q. And where did you go to keep the look-out?—A. Up in the crow's nest, sir.

2057. Q. And after you had got up in the crow's nest did you see anything of any gas buoy or shore-light or anything of that sort?—A. I saw a gas buoy, sir.

2058. Q. Do you know the name of it or not?—A. No, sir, I don't know the name.

2059. Q. But you saw it?—A. I seen it.

2060. Q. Did you report it?—A. Yes, sir.

2061. Q. And after a time did a fog come on?—A. Yes, sir.

2062. Q. Before it came on, did you see anything of the lights of the *Storstad*?—A. Yes, sir.

2063. Q. You say you did?—A. Yes, sir.

2064. Q. Well, what did you see, do you remember?—A. A masthead light, sir, a bright light?

2065. Q. Did you report it?—A. Yes, sir.

2066. Q. What did you do to report it?—A. Struck one bell.

2067. Q. That means lights on the starboard bow?—A. Yes, sir.

2068. Q. And then the fog came along?—A. Yes, sir.

2069. Q. And did it shut out the lights?—A. Yes, sir.

2070. Q. I dare say you heard some whistles?—A. Yes, sir, I heard one.

2071. Q. I don't want you to go through the whistles that you heard—my learned friend, Mr. Haight can ask you to do that, but there were whistles?—A. I beg your pardon.

2072. Q. Were you hearing whistles?—A. I heard one, sir.

2073. Q. Only one?—A. Yes, sir.

2074. Q. Did you see this vessel later on that you had a collision with?—A. Yes, sir.

2075. Q. Was she close to you when you saw her?—A. Yes, sir.

2076. Q. On which bow?—A. On the starboard bow.

2077. Q. She was on your starboard bow?—A. Yes, sir.

2078. Q. Do you remember what you saw of her?—A. Yes, sir.

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2079. Q. What did you see?—A. I saw her masthead lights coming out of the thick fog.

2080. Q. Was she close to?—A. Yes, sir.

2081. Q. And did she strike you?—A. Yes, sir.

2082. Q. Do you remember what you did after she struck you?—A. No, sir.

2083. Q. You don't?—A. No, sir.

2084. Q. What happened to you?—A. I stopped in the crow's nest there a couple of minutes after she struck.

2085. Q. You stopped in the crow's nest a couple of minutes after she struck?—A. Yes, sir.

2086. Q. And what was the ship doing while you were up there?—A. She was going right forward sir, three points on the starboard bow.

2087. Q. No, but what was your vessel doing? When you remained up in the crow's nest?—A. She was standing still in the water, not a move out of her.

2088. Q. She was standing still in the water?—A. Yes, sir.

2089. Q. Well I am obliged for that answer, but did she keep upright or did she go either way after the collision?—A. She was taking a list.

2090. Q. Which way?—A. To starboard.

2091. Q. And how did you get out of the crow's nest after she took the list?—A. I got on the ladder, and from the ladder I got on the forecastle-head.

2092. Q. And having got on the forecastle-head, what did you do next?—A. I ran up on the boat deck, sir.

2093. Q. Which side?—A. The port side.

2094. Q. Were you able to do anything with the boats on the port side?—A. No, sir, you couldn't stand there.

2095. Q. And what did you do after that?—A. I took off all my clothes, only my pants, sir.

2096. Q. And what did you do next?—A. I made for the water.

2097. Q. Did you get there, into the water?—A. Yes, sir.

2098. Q. And how were you saved?—A. Begorra, I couldn't tell you, sir. I was picked up.

2099. Q. Were you picked up in a boat, or got on to some raft or what?—A. I was picked up by some boat.

2100. Q. One of your own boats?—A. Yes, sir.

2101. Q. And where were you taken to?—A. To the *Storstad*.

2102. Q. And what did you do when your boat got to the *Storstad*?—A. Someone helped me aboard, sir.

2103. Q. Did you remain on the *Storstad*?—A. Yes, sir.

By Mr. Haight:

2104. Q. How soon after two bells were struck did you go into the crow's nest?—A. I went into the crow's nest at four bells.

2106. Q. And relieved the other man?—A. Yes.

2107. Q. How far off do you think the white lights of the *Storstad* were when you got into the crow's nest. . . . Did you see them at once or was it a few minutes after?—A. About a couple of minutes after sir.

2108. Q. That is, when you first stepped into the crow's nest and looked about the horizon for the first time, you didn't see the white light?—A. No, sir; I saw nothing then for about two or three minutes.

2109. Q. Had you been on deck any length of time before you went into the crow's nest?—A. Yes, sir.

2110. Q. How long?—A. I was an hour.

2111. Q. Had you been on deck all that time?—A. Not on deck, I was sweeping up the steerage deck.

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2112. Q. How long had you been on the forward deck before you went up the ladder?—A. I was two hours before I went up the ladder.

2113. Q. Actually on the forward deck, where you could look out over the water?—A. I went into the forecastle after coming out of the steerage deck and stopped there until four bells to relieve the look-out.

2114. Q. And you came out when four bells were rung?—A. Yes, sir, to relieve the look-out.

2115. Q. How far off do you think the masthead lights of the *Storstad* were when you first saw her and when you rang your report?—A. When I reported her first, sir?

2116. Q. Yes?—A. She was about six miles off, sir.

2117. Q. And she was then bearing how from your vessel?—A. About three points off the starboard bow.

2118. Q. You were heading out away from the shore then, were you?—A. Yes, sir.

2119. Q. How long was it before you went into the crow's nest that the pilot went over the side?—A. We were just landing the pilot when I went on the look-out, sir.

2120. Q. So that you were lying still in the water at Father Point discharging your pilot when you went into the crow's nest?—A. Yes, sir.

2121. Q. And it was a couple of minutes after you got there that you saw the lights of the *Storstad* six miles away?—A. Yes, sir, about six miles away.

2122. Q. Were you able to see the two masthead lights of the *Storstad* when you first made them out, or was there just a blurred white light?—A. I only seen one, sir.

2123. Q. And how long was it before her side lights were visible?—A. The fog came on all of a sudden, sir.

2124. Q. Both masthead lights, I meant?—A. When I seen both the masthead lights?

2125. Q. Yes, you saw the masthead lights of the *Storstad* quite a little while before the fog shut her out, did you not?—A. Sure I did, sir.

2126. Q. As I understood Mr. Jones' testimony, you ran about twenty-one or twenty-two minutes from Father Point before the fog came on? Now did you not see both masthead lights of the *Storstad* a few moments after you had seen her white light as a single light, and before the fog shut in?—A. No, sir.

2127. Q. You did not?—A. No, sir.

2128. Q. How far away do you think the *Storstad* was when the fog shut off her light?—A. I think about six miles and a half.

2129. Q. Now, I don't want to have you get rattled at all, witness..... you were about six miles from the *Storstad* when you first saw her white light?—A. Yes.

2130. Q. Now you ran eighteen or twenty minutes, according to Mr. Jones, before the fog came on; during that time you were getting closer to the *Storstad* were you not?—A. Yes, sir.

2131. Q. Well, did you not get close enough to her, before the fog shut in, so that you could see both of her electric masthead lights?—A. No, sir, I didn't take notice; I only reported the one.

2132. Q. You didn't watch the *Storstad* after you had reported it?—A. No, sir, I didn't take notice of her after.

2133. Q. Well, didn't you see how she was bearing when the fog shut her out?—A. No, sir.

2134. Q. I suppose you casually, at least, looked at the *Storstad* two or three times after you first reported her, to see whether her bearings were changed?—A. No, sir, I didn't take notice.

2135. Q. Was there another ship at all around about you?—A. No, sir, not as I seen.

2136. Q. How did you know when the fog shut the *Storstad* out if you never looked at her from the time you first reported her, you were seeing her when the fog shut her off, were you not?—A. Yes.

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2137. Q. Now how far away do you think she was when she did disappear into the fog?—A. She was about four miles off.

2138. Q. At that time, couldn't you see both of her white masthead lights?—A. No, sir, I didn't take much notice.

2139. Q. Now when the fog shut her out from view, did you hear the *Empress of Ireland* blow a signal of one long blast?—A. Yes, ... no sir, it blew twice, three long blasts each time.

By Lord Mersey:

2140. Q. Do you mean three long blasts?—A. Three short blasts.

2141. Q. Well is that the reason why you said three long blasts?—A. It was three short blasts.

LORD MERSEY.—Do you think you are going to make much of this witness, Mr. Haight?

MR. HAIGHT.—No, my Lord.

2142. Q. Carroll, is it not according to your recollection that you heard a whistle, one long blast, from the *Storstad*, after the fog came on, and shut your vessel out?—A. Yes, I heard one blast, sir, that is all I heard from her.

2143. Q. Now, wasn't that one blast from the *Storstad* when you first heard it in answer to a signal of one long blast blown by the *Empress*?—A. I didn't hear the *Empress* blow one long blast. I wasn't taking notice.

By Lord Mersey:

2144. Q. Isn't it your business in the crow's nest to take notice of whistles?—A. Yes, sir, I was there.

2145. Q. Is it your business to do it?—A. Yes, sir.

2146. Q. As well as to look around and see what you can find with your eyes?—A. Yes, your worship.

By Sir Adolphe Routhier:

2147. Q. As a lookout you have to listen too?—A. Yes, sir.

By Lord Mersey:

2148. Q. And do you report the whistles you hear?—A. Yes, your worship.

By Mr. Haight:

2149. Q. When you saw the masthead lights of the *Storstad* coming out through the fog, did you see two lights then?—A. No, sir, I only seen the one.

By Lord Mersey:

2150. Q. That is just before the collision?—A.

MR. HAIGHT.—Yes, my Lord, just before the collision.

2151. Q. And that one bore about three points on your starboard bow?—A. Yes, sir.

2152. Q. And did that one broaden off so that it was about amidships when the vessels struck?—A. Abreast the starboard rigging, sir.

2153. Q. Could you see the masthead lights which first bore three points on your starboard bow broaden out four points, five points, and go down along towards the beam of your vessel?—A. Yes, sir.

2154. Q. Did you at any time, Carroll, see a coloured light on the *Storstad*?—A. No, sir, I seen nothing but the masthead light, I couldn't see his hull. I seen nothing but the masthead light.

2155. Q. Either before the fog shut her out or after?—A. Or after, sir.

2156. Q. You have spoken of reporting a gas buoy?—A. Yes.

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2157. Q. How long was that after you went into the crow's nest, if you can remember?—A. About six minutes after we were getting away, sir, after dropping the pilot.

2158. Q. And how did that bear when you first saw it?—A. I didn't take notice, sir.

2159. Q. You did report it?—A. I reported it, sir.

2160. Q. And what bell did you ring?—A. One bell.

2161. Q. It was on your starboard side?—A. Yes, sir, starboard side.

2162. Q. Was it well off?—A. It was well off the bow, sir.

2163. Q. Three or four points?—A. About four points, sir.

(The witness then retired).

LORD MERSEY.—Now, Mr. Aspinall, we want the man that was on the bridge of the *Storstad*.

MR. ASPINALL.—Yes, my Lord, Mr. Toftenes.

LORD MERSEY.—Is he here?

MR. ASPINALL.—Yes, my Lord, he is here.

LORD MERSEY.—We want him to take another chart and mark what he says is the course of the *Empress*, and if you can give him one of the plans and send him into a room by himself we will see what he hatches.

MR. HAIGHT.—I find that the supply of charts in Quebec is not quite exhausted, my Lord. I have a fresh chart here.

LORD MERSEY.—Hand me up the chart, please.

MR. HAIGHT.—Here it is, my Lord.

LORD MERSEY.—Now if Mr. Toftenes is here, I would ask him to come up behind the Bench for a moment.

MR. TOFTENES.—Yes, my Lord.

LORD MERSEY.—Where is the chart upon which this witness marked the point of the collision according to his idea of its locality?

MR. HAIGHT.—It is one of the exhibits, my Lord.

LORD MERSEY.—It does not quite agree with the point marked by Captain Kendall.

MR. HAIGHT.—Not quite, my Lord.

LORD MERSEY.—But substantially it does.

MR. HAIGHT.—It is nearer the shore than the point marked by Captain Kendall. I believe it was the chart B that was marked by Mr. Toftenes.

LORD MERSEY.—Now is the last witness who was in the box disposed of?

MR. HAIGHT.—Yes, my Lord, he is so far as I am concerned.

LORD MERSEY.—Does any one want to ask him any more questions? I hope no one does. If no one wishes to ask him any more questions, I would ask Mr. Aspinall who will be his next witness.

MR. ASPINALL.—The next witness we propose to call is a man by the name of Murphy, one of the quartermasters, and he will be examined by my learned friend, Mr. Meredith.

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JOHN MURPHY, Quartermaster, *Empress of Ireland*, sworn.

By Mr. Meredith:

2164. Q. What is your name?—A. John Murphy.

2165. Q. Were you one of the quartermasters on the *Empress of Ireland*?—A. Yes, sir.

2166. Q. There were how many other quartermasters?—A. Three more besides me.

2167. Q. How long have you been quartermaster on the *Empress of Ireland*?—A. Four years and five months.

2168. Q. On the *Empress of Ireland* there are regular quartermasters, you sign on as such, do you not?—A. Yes.

2169. Q. When did you take your trick at the wheel?—A. Twelve o'clock.

2170. Q. Who was the quartermaster on duty?—A. Sharples.

2171. Q. When Sharples took his trick and you followed on—or was it the other way, you went on first?—A. I went on twelve o'clock, and kept on till two.

2172. Q. And Sharples followed you and has been lost?—A. Yes, sir.

2173. Q. When you got through your trick at the wheel did you remain on the bridge?—A. Yes, sir, except five minutes when I was off streaming the log.

2174. Q. On the instruction of one of the officers?—A. Yes, Mr. Jones' directions.

2175. Q. Who was on the bridge from Father Point up to the time of the sinking of the ship?—A. The Captain, Mr. Jones, Mr. Moore, me, Sharples, and the bridge boy.

2176. Q. Do you remember any signals being given by your ship some time after your ship left Father Point?—A. Yes, sir.

2177. Q. Will you state to the Court what signals those were?—A. Three short blasts.

2178. Q. Did you hear any responding signal from the other boat?—A. I heard one blast from some ship, but it was rather indistinct to me, it seemed to be a great distance off like.

2179. Q. I forgot to ask you how long have you been quartermaster? You mentioned the time you have been quartermaster on the *Empress of Ireland*, how long have you been quartermaster altogether?—A. About twenty years altogether.

2180. Q. And about how long in the C.P.R.?—A. About ten years.

2181. Q. And before that?—A. In various ships out of Liverpool.

2182. Q. Always as quartermaster?—A. Sometimes I didn't go as quartermaster, because I could not always get it.

2183. Q. But most of the time?—A. Yes, sir.

2184. Q. You said you caught a faint one-blast signal after your vessel had given three short blasts?—A. I heard her the second time.

2185. Q. You heard her again?—A. Yes, a single blast.

2186. Q. Before you heard it the second time what had your vessel done? Had she given another three blasts?—A. Yes, another three blasts after that.

2187. Q. Now after the other vessel had answered with one blast was it a short or a long one the other boat gave you?—A. It was a prolonged blast.

2188. Q. After that did your vessel give the other vessel any other signal by her whistle?—A. Yes, sir, she gave two long blasts.

2189. Q. Do you remember whether that was answered or not?—A. No, I never heard nothing, no answer.

2190. Q. Now could you tell us whether after the three short blasts from your vessel your vessel went ahead or did she reverse, go back?—A. She went back.

2191. Q. She was backing. Her engines were backing rather?—A. Yes, sir.

2192. Q. Do you happen to know of your own personal knowledge, from observation, how long it takes to bring the *Empress of Ireland* from full speed ahead to dead stop in the water?—A. Yes, sir, I have seen her fetched up in two minutes.

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2193. Q. Where have you seen that happen?—A. In Liverpool, picking up the pilot at the Bar ship.

2194. Q. Can you tell this court whether as a matter of fact the *Empress of Ireland* was in fact stopped in the water before she was hit?—A. Yes, sir. I looked over the side myself, on the port side of the bridge. The ship was stopped.

2195. Q. How long then would the *Empress of Ireland* have been reversing her engines to bring her to a dead stop?—A. Oh, she was not very long, about a couple of minutes.

2196. Q. Well, then you say that after three signals were given twice, two long blasts were given?—A. Yes, sir.

2197. Q. I know it is very difficult to speak of time but can you give this court any idea what time elapsed from the end of the reversing when the ship was stopped to the time of the impact, up to the time the vessel ran into us?—A. It was a matter of about two minutes. I don't suppose it would be hardly two minutes, that is about as near as I can get it.

2198. Q. It may be more or less?—A. I did not look at my watch or the clock because I was busy on the bridge.

2199. Q. What did you do as a matter of fact? Did you remain on the bridge or go away?—A. I remained on the bridge the whole time.

2200. Q. But what finally happened to you, where did you go?—A. After the ship struck us the Captain gave me orders to blow the siren, which I had to go the port side of the bridge to do. There is only one wire, it works automatically, so I had to go to the port side to blow it.

2201. Q. What kind of a blast did you give?—A. I gave it a very long blast. Some of the men were up to the boats before the blast was finished.

2202. Q. After you had finished blowing the siren—who told you to do that?—A. It was the Captain's orders.

2203. Q. What did you do after that?—A. Waited on the bridge for orders.

2204. Q. Did you get any?—A. Yes, Captain told me to go and get my boat ready.

2205. Q. Which was your boat?—A. No. 12 on the chart.

2206. Q. On the port side?—A. Yes.

2207. Q. How did you find that boat?—A. It was impossible to launch.

2208. Q. It was impossible, you could not do anything on account of the list?—A. No. There were three or four men there and they could not do anything. I went to No. 13 to give a hand there.

2209. Q. On the opposite side?—A. On the starboard, yes.

2210. Q. What happened to her?—A. They got her out, but I did not get in her.

2211. Q. What did you do?—A. I waited to lend a hand as I thought they might want help with the other boats.

2212. Q. And then?—A. I stopped too long, until the boats were in the water, and then jumped overboard myself.

By Lord Mersey:

2213. Q. Did you jump into the boats?—A. No sir, into the sea.

2214. Q. By the time you got into the sea was the ship showing a very big list?—A. Her lee rail was on the water. I could walk into the sea from her decks.

By Mr. Meredith:

2215. Q. Now, were you picked up by any other boat?—A. No, I picked myself up. I grabbed an upturned boat, No. 15 I think it was, capsized, and then I got hold of the bow of No. 13 I think it was.

2216. Q. Then you were picked up?—A. No I picked myself up. I got on to the boat myself.

2217. Q. Were there passengers in that boat?—A. Yes.

2218. Q. Was it an *Empress* boat?—A. Yes.

2219. Q. And where did you go?—A. We filled the boat with passenger——

2220. Q. You picked up as many as you could?—A. Yes, and went to the *Storstad*.

2221. Q. Did you remain on the *Storstad*, or come back?—A. We put the passengers on the *Storstad* and made a second trip, and got about 30 people.

2222. Q. What did you do then?—A. We did not go back to the *Storstad* the third time, but went to the *Eureka*. We let the boat drift because we did not require her any more.

2223. Q. Why not?—A. Because there were no more living. There were a lot of dead people on the water.

2224. Q. You were satisfied there were no more people living?—A. Yes, I am certain. We cruised about. There was an empty lifeboat there and I told the Captain because I did not know if there were any people in it.

2225. Q. You have seen service for a good many years, was there any disorder on that ship that you could see?—A. No, I was all over the ship from bridge to her stern. I never saw any disorder. I saw the men doing all they could to get the boats away.

LORD MERSEY.—If I may stop this for a moment I can tell you what we have. We have first of all a chart which has been marked by Captain Kendall, which I will hand down so that you both can see it. It purports to show what he supposes must have been the course of the *Storstad*, and it purports to show the course of the *Empress* to the point of collision. Now, if you look at that you will see that he has marked the position when the first blast, the second, third and fourth blasts were heard, and he has marked the position of the *Storstad* at the time when he supposes she ported her helm and turned to starboard. And he has shown the effect of that movement, bringing the two ships together. I don't know whether my explanation is sufficient to enable you to read the chart which he has drawn but I think it is.

MR. ASPINALL.—Yes, my Lord.

LORD MERSEY.—Now, here is the chart marked by Toftenes. It is the original chart on which he marked the position of the point of collision. It is the same chart, and he has now marked upon it the course followed by the *Storstad*. And it shows the course right up to the point of collision. When I asked him to mark upon it the course which he supposed the *Empress* took he says, quite frankly, to me I cannot do it, and I am not going to press him to do something which he begins by saying he cannot do. And therefore we have only got from him one course set out, and in the course as laid down by Captain Kendall, though there are two, there is but one course about which he says that he is sure, namely, the course of his own ship, and one other course which he can only describe as approximate, because he does not, of course, know it, it is the course of the ship he was not on. Now, let the chart that is marked by Captain Kendall in blue be marked as being in evidence. The other is already in.

The chart of First Officer Toftenes was marked Chart B, and that of Captain Kendall, Chart C.

Cross-examination by Mr. Haight:

2226. Q. When you gave up the wheel at two o'clock, Murphy, where was the *Empress*?—A. At Father Point, just about disembarking the pilot.

2227. Q. How long after you gave up the wheel was it before the *Empress* started ahead again on her course?—A. Yes, before she started ahead again on her course.

2228. Q. But how long after you gave up the wheel was it before she started ahead full speed on her course?—A. I was aft when she started ahead.

2229. Q. But how long after?—A. Five minutes after I was streaming the log.

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2230. Q. After you had put the log out you went back on the bridge?—A. Directly on the bridge, sir.

2231. Q. And did the *Empress* start ahead when you got to the bridge?—A. Yes, sir, certainly, she was going ahead before I left aft, because the log was out.

2232. Q. You heard several signals of one whistle blown by the *Storstad* before the collision?—A. Two, sir. Twice.

2233. Q. Did you hear any signal of one whistle blown by your ship in answer to their one?—A. No, sir, I did not.

2234. Q. I understood you to say that after the *Empress* blew her signal of three whistles you backed?—A. Yes, our ship did.

2235. Q. How long after you blew three was it that you backed?—A. Just directly the whistles had blown.

2236. Q. And how long did you think your engines were kept going full speed astern?—A. She blew three more.

2237. Q. But how many minutes, can you tell, was it that they backed before they blew the second signal of three whistles?—A. A couple of minutes, sir, I can't exactly say.

2238. Q. Then you heard the *Empress* blow two long blasts?—A. Yes, two long blasts.

2239. Q. How long was it between your second signal of three whistles, and that signal of two whistles?—A. About a minute and a half I should think. About two minutes, I cannot say for certain.

2240. Q. It was some little time?—A. Yes, a little time that is all.

2241. Q. Were you where you could see your telegraph?—A. Yes, I was on the port side of the bridge.

2242. Q. During the minute and a half or so after the second signal of three and before the first signal of two was your telegraph standing full speed astern? Do you think you were reversing up to the time the two whistles were blown?—A. Yes, I can tell by the vibration of the propeller, I can tell when the ship is going astern, I don't want to look at the telegraph at all.

2243. Q. Did you see the telegraph when the order was given for the ship to go astern?—A. That is not my place. I don't take any notice of things like that.

2244. Q. But you did see the telegraph up to the time that the two whistles were blown?—A. I did not see it. I heard it going, but I didn't look.

2245. Q. You heard the vibration?—A. Yes, of the propeller.

2246. Q. After they blew the signal of two whistles which was the third signal of the series, did you feel the vibration stop, or did it keep going astern?—A. No, she was stopped. The way was off the ship going astern, and I looked over the port side and she had stopped.

2247. Q. So that she was reversing from the time the first signal of three was blown until she was dead stopped, until they blew the two long blasts, and as soon as she was dead stopped they stopped the engines and then blew two?—A. Blew two blasts, yes.

2248. Q. Now the engines moved again as I understand it, until the *Storstad* was seen coming out of the fog?—A. Well, I can't answer that question, sir, I was waiting for the captain's orders.

2249. Q. What was that?—A. Captain told me to go and blow the siren which I did.

2250. Q. That was after the collision?—A. Yes, sir.

2251. Q. So far as you know you felt no vibration of the engines until you saw the *Storstad* out on your starboard side?—A. That is correct.

2252. Q. Do you think that the *Empress* will stop when reversed full speed in a couple of minutes and you say it has been tested. Will you please state what test

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was made?—A. I have seen the ship pull up so often for the pilot that he can pull her up in two minutes or two and a half at the outside.

2253. Q. You never put your watch on it?—A. No, but I have the clock on the wheelhouse all the same.

2254. Q. You have simply noted it when the vessel was stopped to take the pilot up?—A. Yes.

2255. Q. Does the *Empress* usually run full speed up to the pilot boat and then reverse full speed?—A. Oh, no, she does not, she slows down.

2256. Q. That is what I thought. She approaches the pilot boat slow?—A. Yes, I was at the wheel then.

2257. Q. And you don't reverse your engine full steam astern then?—A. Oh, yes, if they want to pick her up quick, certainly.

2258. Q. But your observation has been when they are taking the pilot?—A. Yes, many occasions like that.

2259. Q. Now, as I understand you, from the time your vessel was dead in the water, after you blew the signal of two whistles, it was about two minutes up to the time of the collision?—A. Yes, sir.

2260. Q. Was your patent log out when the collision occurred?—A. Yes, sir.

2261. Q. You say that you went to the *Eureka* after you made one trip in the boat, and turned your boat loose then?—A. The second, after we made one trip to the *Storstad* with a boat full of people.

2262. Q. Were you in command of that boat?—A. No, sir, I was pulling an oar.

2263. Q. Who was in command of that boat?—A. Mr. Radley, the boatswain's mate.

2264. Q. You first got into No. 13?—A. No, I did not, she was capsized.

2265. Q. What was the boat that picked you up?—A. No. 15 was capsized. No, I think it was thirteen that was broke in two halves.

2266. Q. What boat was it that picked you up?—A. There was no boat that picked me up. I got into a boat myself.

2267. Q. What boat did you get into?—A. No. 13.

2268. Q. That boat was not broken?—A. Yes, that is the boat that was broken.

2269. Q. Did you make two trips in her?—A. Yes, in that boat.

2270. Q. The first trip you went to the *Storstad*, and the second to the *Eureka*?—A. Yes. That is quite right.

2271. Q. And I understand you to say that after you had picked up the second boat load you thought there were no more living people in the water?—A. There was none.

2272. Q. But there were dead bodies?—A. Dead bodies floating about with lifebelts on and one thing or another.

2273. Q. By whose orders was it that the boat was turned loose?—A. I was standing in the boat to make it fast and somebody shouted what was I standing there for and so I got on board the *Eureka*, and let her drift. The rest of them had gone aboard. Some of them were dead when we got them on deck.

2274. Q. Did you see any lights on the *Storstad* before the fog came on?—A. I saw her masthead lights when she was sixty feet off, that is the only time I saw it.

2275. Q. You did not see any lights on her before the fog came on?—A. No, I was on the port side of the bridge.

2276. Q. And did you see any coloured light on the *Storstad*?—A. No, she was too low down to see the coloured light underneath our ship. Our ship is very high, and she was low down, and I could only see her masthead light.

2277. Q. You were standing on which side of the wheel, on the starboard side of the wheel?—A. Well, yes, on the starboard side of the bridge. I came through the wheel house to have a look.

2278. Q. How near were you to the rail?—A. About fourteen feet.

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2279. Q. And the *Storstad* was so low that all you could see was her masthead light. Could you see her deck?—A. No, sir.

2280. Q. Could you see her bridge?—A. No, I was too far in on our bridge.

By Mr. Gibsone:

2281. Q. While you were on the boat *Storstad*, did it come to your knowledge, or is it a fact that any members of the crew refused to go back to the rescue of passengers or people in the water?—A. Not in our boats, sir.

2282. Q. Do you know if it happened in any other boats?—A. I can only answer for our boat. We were bunched up in that boat together all the time.

2283. Q. None refused to go back so far as your boat was concerned?—A. Not as I know of.

2284. Q. Did they all go back?—A. I don't know.

2285. Q. I am speaking about the crew, the members of your boat, did they all go back to the scene of the disaster?—A. Why, certainly. We never left the boat at all till we got to the tug boat.

2286. Q. Do you think the crew in the other boats acted in the same way?—A. I don't think so, and I don't believe so.

2287. Q. You don't think so?—A. That they left their boats.

2288. Q. Do you believe that they went back?—A. Yes, I saw them in the lifeboats myself.

2289. Q. You saw them circulating about?—A. Yes, sir, certainly.

By Lord Mersey:

Unless any of you gentlemen think differently the two last witnesses can now go to their homes or wherever their business takes them. I mean this witness and the gentleman from the Crowsnest. They can go away anywhere.

(The Commission thereupon adjourned till 10 a.m. Thursday, June 18.)

THIRD DAY.

QUEBEC, Thursday, June 18, 1914

The Commissioners appointed by the Honourable John Douglas Hazen, the Minister of Marine and Fisheries of Canada, under Part X of the Canada Shipping Act as amended, to enquire into a casualty to the British Steamship *Empress of Ireland*, in which the said steamship belonging to the Canadian Pacific Railway Company was sunk in collision with the Norwegian Steamship *Storstad*, in the River St. Lawrence on the morning of Friday the 29th day of May, 1914, met at Quebec this morning, the eighteenth day of June, 1914.

LORD MERSEY.—Mr. Newcombe, inasmuch as part of our Report must consist of descriptions of the two ships, and more particularly of the *Empress of Ireland*, I should be glad if you could put in the plans and such evidence as you have with reference to the construction of these two vessels as soon as possible, so that the Naval Engineers may have them before them and be in a position to consider them. There is another matter that might be done I think very soon, and it is a matter that we shall also have to deal with in our Report. You might seek some evidence, not too much and not too long, dealing with the question of equipment of the vessels, and particularly, again, with reference to the equipment of the *Empress of Ireland*—lifeboats, rafts and life belts. Therefore, will you collect that evidence, and let us have it as soon as you can conveniently get it.

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Mr. NEWCOMBE.—Yes, my Lord; in the meantime, I should like to call a passenger from the *Empress of Ireland* who is sailing this afternoon by the *Calgarian*.

LORD MERSEY.—You know so much more about it than I do that you must follow the most convenient course, but I am suggesting that these are matters that we should like to have as soon as it is conveniently possible.

Mr. NEWCOMBE.—We will attend to that, my Lord. Of course, there are several passengers here in attendance whose evidence, perhaps, is not very material to the inquiry, but at the same time I think it is well that the tribunal should be informed from the passengers' standpoint of the experience that they had.

LORD MERSEY.—Of course, you know it will be largely an expression of opinion; I doubt very much whether the passengers can tell us very much about it.

Mr. ASPINALL.—We have had over from the Fairfield Shipbuilding Company Mr. Hillhouse, Naval Architect, and also Mr. Gracie, Managing Director, and any information that they have to give will be, of course, at the disposal of Mr. Newcombe in order that he may inform himself with regard to this part of the case. We also have here our Marine Superintendent and other officials who can deal with matters of equipment, life-saving apparatus and so on.

LORD MERSEY.—You can either let Mr. Newcombe call these witnesses, or, if you like, call them yourself.

Mr. ASPINALL.—The more usual course, undoubtedly, certainly in England, is that counsel representing the Board of Trade puts that evidence before the tribunal. It seems to me that it would be better under the circumstances if Mr. Newcombe should do so.

LORD MERSEY.—You place the evidence at his disposal and he produces it.

Mr. ASPINALL.—We will give him every information that we can.

GEORGE BOGUE SMART, 1st cabin passenger, *Empress of Ireland*.

By Mr. Newcombe:

2290. Q. Mr. Smart, you were a first cabin passenger on the *Empress of Ireland* on the voyage on which she sank?—A. Yes, sir.

2291. Q. What was the number of your cabin?—A. Well, as well as I can remember, it was 212. It was on the dining-room deck.

2292. Q. Can you identify it on the plan?

LORD MERSEY.—Let him tell us whether it was on the port side or the starboard side.

By Mr. Newcombe:

2293. Q. It was on the starboard side of the ship?—A. Starboard side of the ship.

By Lord Mersey:

2294. Q. On the dining saloon deck?—A. Yes.

2295. Q. Was it near amidships?—A. Yes, quite near.

By Mr. Newcombe:

2296. Q. At what time did you turn in?—A. Between 9.30 and 10.

2299. Q. Were you awakened by the collision?—A. No, I was awakened by the siren or the whistles blowing.

2298. Q. Do you know what time that was?—A. It must have been very near 2 o'clock.

2299. Q. What did you hear?—A. I heard a sort of double whistle, two whistles at a time, two distressing calls, like.

2300. Q. What did you do?—A. I sat up in bed and cogitated for a moment; then suddenly the crash came.

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2301. Q. So that you were awakened before the collision took place?—A. I was awakened before the collision, yes.

2302. Q. Then what did you do?—A. I ran out of my stateroom into the passage-way and climbed up on a little box or some arrangement there and looked out the port hole.

2303. Q. What did you see?—A. I saw the bow of the *Storstad*. I saw some men on deck and heard the captain of the *Empress* talking to them.

2304. Q. Did you hear what he said?—A. The Captain of the *Empress* said: Go ahead, or words to that effect, or to keep going.

2305. Q. Did you hear any reply from the *Storstad*?—A. No, no reply.

By Lord Mersey:

2306. Q. You did not hear any?—A. I did not hear any reply from the Captain of the *Storstad*.

By Chief Justice McLeod:

2307. Q. The collision had then taken place?—A. Yes.

By Mr. Newcombe:

2308. Q. You were very close to the *Storstad*?—A. Yes, it seems to me that I was exceedingly close. My recollection is, although it is an exaggeration, that I could almost have touched the bow of the *Storstad*, because she was straight in against the side of the ship. I think this is exaggeration; of course, it is very difficult for one to tell. I would not like to say I could, but that is the impression that is in my mind.

2309. Q. Where was the port hole you were looking out; was it forward or abaft the point of contact?—A. I cannot say that.

By Lord Mersey:

2310. Q. Can you say whether the bow of the *Storstad* that you say you saw, was to your right or left hand side?—A. I would say it was to my right.

2311. Q. That is to say, the bow of the *Storstad* was further astern, to your right?—A. Possibly, but I would not like to say.

By Mr. Newcombe:

2312. Q. What did you do then?—A. I ran back to my cabin, put on my trousers and coat over my pyjamas and went up on deck.

2313. Q. Did you get a life belt?—A. No.

2314. Q. Were there life belts there?—A. Yes, but I did not realize the danger that we were in.

2315. Q. You went on deck?—A. I went on deck, yes.

2316. Q. What did you find on deck?—A. I found general confusion, but not a panic, you know. The people were rushing to the upper deck, the deck above me. I realized at once when I got out on deck that I had no life belt, and I just made up my mind I had to trust Providence for safety.

2317. Q. You came out on the starboard side of the ship?—A. Yes.

2318. Q. Did you cross the deck to the port rail?—A. Yes, I sat on the railing of the ship.

2319. Q. Any difficulty in getting up there on account of the list of the ship?—A. Yes, very great difficulty; it was almost, I would say, a 40 per cent grade.

By Lord Mersey:

2320. Q. There was a great list to starboard?—A. Very great; in fact, I had to crawl on my hands and knees over the stairs from the saloon deck to the upper deck to get out.

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By Mr. Newcombe:

2321. Q. You got on the rail?—A. I climbed out on the rail and put my arm around the post, you know, and just sat and waited.

2322. Q. Until the ship went down?—A. Until the ship went down. When the ship went down, it appears to me I went over with her as I was shot out.

2323. Q. And you were picked up?—A. Yes. I went down twice, fully 10 or 20 feet, I imagine, and when I came up the second time I saw a dark object in the water. I put forth every herculean effort until I gripped with one hand a deck chair. I hung on to that until I got very weak and I pulled the chair up to about here with my hands out this way (indicating), and I rested. I must have drifted around fully an hour, because it was seven o'clock when they dropped me at Rimouski.

2324. Q. What boat did you get into? Were you on the *Storstad*?—A. No, I was on the *Lady Evelyn*, I think. Of course I won't be positive as to that because I was not in a state to—

2325. Q. About the discipline on board after the collision, as far as you could observe; have you anything to say about that?—A. Yes, it was really marvellous. I never heard people who spoke with such tenderness to each other in that time of great distress and danger as there were there. There was no bad language, no panic to speak of.

2326. Q. No violence at all?—A. No violence at all; all good-natured. On the life raft, the man in charge of the raft, whoever he was I will never know, but whoever he was he spoke in the kindest way to me; it was really delightful to me then under those trying circumstances.

2327. Q. Now, when you came on deck, you were there holding on to the rail for several minutes before the ship went down?—A. Yes, it must have been for some minutes.

2328. Q. Are you able to say whether the *Empress* was moving through the water at the time?—A. No. My impression was that she had stopped, but she might have been moving just very gradually.

2329. Q. You are satisfied that she was moving very slowly, if at all?—A. If at all.

2330. Q. Is there anything which you wish to add to this statement, Mr. Smart?—A. No, I think that is the sum and substance, without elaborating on my experience.

2331. Q. About an explosion; did you hear anything of that?—A. No, but I heard somebody call to me: the ship is on fire, and I just turned my head and looked around and I saw great flames of smoke coming out of one of the pipes. Of course I did not care at that time what was happening.

By Lord Mersey:

2332. Q. When you put your head out of the port, which, as I understand was in the passage, not in your cabin?—A. It was in the passage.

2333. Q. And saw the stem of the *Storstad*, as far as you can tell us were the two ships at that moment in contact?—A. They were not touching each other.

2334. Q. They were not?—A. No.

2335. Q. And the collision had taken place?—A. It had taken place before I had got in that position.

Cross-examined by Mr. Haight:

2336. Q. Mr. Smart, when you were awakened by the sound of the whistles that you characterized as distressing, did you distinguish how many blasts there were? Were you able to tell that they were blowing a real distress signal, four or five or six short blasts, or whether it was of another kind?—A. My impression is that there were two whistles, two blasts at a time. Of course, it might have been repeated, you know.

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2337. Q. Were they blown on a siren?—A. Well, I presume so.

2338. Q. I mean, was the sound one which rose to a crescendo, and like a running whistle?—A. Yes, like a scream, you know.

2339. Q. It was not an ordinary single tone blast?—A. No.

2340. Q. The usual fog whistle?—A. No, it was a double,—there were two blasts.

LORD MERSEY.—He has said that it was a siren; I understood him to say so.

The WITNESS.—Perhaps I am mistaken in saying so, but I assumed that it was.

By Mr. Haight:

2341. Q. As I understand, you felt the jar of the actual contact before you looked out the port hole?—A. Yes.

2342. Q. Had the jar come after you got out of your berth?—A. No, just as I was getting out. As soon as the first impact came, I jumped out.

2343. Q. And you stopped only to throw on a coat over your pyjamas?—A. A coat and my trousers.

2344. That took only a few seconds?—A. Yes.

2345. Q. When you looked out of the port hole, as I understand you, the vessels seemed to be relatively at right angles?—A. Yes.

2346. Q. But the stem of the *Storstad* was then a little distant from the side of the *Empress*?—A. The bow of the *Storstad*, yes.

2347. Q. You said that she was so close that you felt you could almost touch her?—A. Yes, I felt that, you know, afterwards. It seemed to me she was so close I could almost touch her and I could distinguish men on deck.

2348. Q. So that the bow should only have been a foot or two—

LORD MERSEY.—Do not argue about it, please; ask him questions and take his answers.

By Mr. Haight:

2349. Q. Now, what would you judge to be the distance between the side of the *Empress* and the bow when you looked at her and thought you could touch her?—A. I would not like to say.

LORD MERSEY.—You are quite right not to say.

By Mr. Haight:

2350. Q. How soon did you go on deck after you looked out?—A. I would not like to define any time.

2351. Q. Did you start to do anything else?—A. No.

2352. Q. Went from the port hole straight on deck?—A. No, I went back to my stateroom and put on my coat and my trousers and then went for the deck.

2353. Q. I thought you had your trousers on before you came out of the room?—A. No, I was in my pyjamas.

2354. Q. When you went to look through the port hole, you said you had thrown on a coat?—A. No, I ran out and looked through the port hole before I put on either coat or trousers. I ran back and put them on when I saw the position of the ships.

2355. Q. When you started to go up on deck, the *Empress* was already listing so far that you had to crawl up the stairs?—A. Yes, had to crawl up the stairs.

By Lord Mersey:

2356. Q. After you went back to your cabin to put on your coat and trousers, and when you crawled up on deck, where was the *Storstad*, do you know?—A. No, I do not know.

2357.—Q. Do not tell me if you don't know?—A. I do not know, because I was on the other side.

LORD MERSEY.—That is quite enough.

The WITNESS—I don't know; she struck on the starboard side; I took the higher side of the ship.

By Lord Mersey:

2358. Q. You took the port side?—A. The port side.

2359. Q. Which you thought was the safest?—A. The safest, yes.

By Mr. Haight:

2360. Q. Can you form any idea, Mr. Smart, as to how long you sat on the port rail before the vessel went over and you went in the water?—A. No, I would not undertake to do that; some minutes probably.

By Lord Mersey:

2361. Q. To you it might have seemed an eternity?—A. It is impossible to measure time under the circumstances.

By Mr. Haight:

2362. Q. Will you state how much of a jar there was when the vessels came together. Were you shaken up seriously?—A. No, I can best define the jar by saying that it reminded me of the rude impact of a couple of coaches on a railway when they almost knock you over with the impact. They make very rough couplings sometimes, you know. It reminded me very much of that.

2363. Q. Did you see the *Storstad* after you looked out through the port hole?—A. Yes, I think—

2364. Q. I mean, before you went in the water?—A. Yes, I think I did.

2365. Q. Where did you see her?—A. I assume it was the *Storstad*. There was a ship standing, it appears to me to have been quite a distance out, possibly a mile, all electrically lighted. I saw her in the distance. I sat on the railing before the ship went down. Before the *Emprress* went down I saw in the distance this lighted ship.

2366. Q. Which way was she from you?—A. I would not undertake to say.

2367. Q. You do not know whether she was towards your stern or towards your bow?—A. No, I would not like to pass any opinion as to that.

2368. Q. Was it foggy then?—A. There was a slight fog, I think, very light. It reminded me something of the land, a misty morning, you know.

2369. Q. What is your business, Mr. Smart?—A. I am—

LORD MERSEY.—What does that matter?

MR. HAIGHT.—I do not know that it matters anything, my Lord, but I should like to ask the question if I am permitted.

LORD MERSEY.—But I do not think that inquiring as to this gentleman's personal affairs will help us. Does it go to his credit?

MR. HAIGHT.—I do not think it will, sir.

LORD MERSEY.—If it does not go to his credit, it is certainly not material. I am simply interrupting you in the interest, though I am not sure that I am accomplishing what I want to do, of economy and time. I am not sure that I am doing it.

MR. HAIGHT.—Possibly, if he were an engineer—

LORD MERSEY.—Perhaps it would be shorter to allow you to ask the immaterial question and get the answer.

The WITNESS.—I am not ashamed of my occupation. I am Chief Inspector of British Immigrant Children of Canada, Dominion Civil Service.

By Mr. Newcombe:

2370. Q. Service of the Dominion Government?—A. Service of the Dominion Government.

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LORD MERSEY (to Mr. Gibsone).—Do you want to ask anything?

Mr. GIBSONE.—No, My Lord.

By Mr. Newcombe:

2371. Q. Do you remember whether 212 was the number of your cabin?—A. I am not positively certain, you know. I got the location, anyway, of my room, and I knew where to find it. It was along the saloon passageway, just a very short distance.

By Mr. Haight:

2372. Q. The passenger list will show?—A. Yes. They changed me after I was on the ship. When I went on first I was in one room and they gave me a stateroom to the south afterwards, right adjoining the one I had been assigned to.

2373. Q. How near to the one originally assigned to you?—A. Just a partition between us, that was all.

Witness retired.

JOHN W. BLACK, 2nd cabin passenger, *Empress of Ireland*, sworn.

By Mr. Newcombe:

2374. Q. You reside at Ottawa?—A. Yes.

2375. Q. You were a second cabin passenger with your wife on the *Empress*?—
A. Yes.

2376. Q. Were you in your bunks at the time of the collision?—A. Yes.

2377. Q. What was the first you knew of it?—A. The crash woke me.

2378. Q. Where was your cabin?—A. On the main deck.

2379. Q. Which side?—A. Afoot of the second cabin dining room.

(Here a plan was handed to witness and position of stateroom indicated).

2380. Q. An inside cabin, was it?—A. An inside cabin.

2381. Q. 416?—A. 446.

2382. Q. There it is, then? (Indicating).—A. Yes, on the upper deck.

LORD MERSEY.—I thought you said on the main deck.

By Mr. Newcombe:

2383. Q. On the starboard quarter, upper deck, an inside cabin?—A. Yes.

2384. Q. You were awakened by the crash; do you know what time it was?—A.
Quarter past two.

2385. Q. By your watch?—A. Yes.

2386. Q. What did you do?—A. I immediately jumped out of bed and opened the stateroom door. I saw two deck stewards running for the stairs. I surmised that there was something wrong and I rushed back into my room and took my wife up on deck. I met a sailor on deck and I asked him what was the matter; he said: Nothing, it is only a trifle. I looked around a minute later and I saw some seamen providing some ladies with life-belts, so I calculated then there was something serious. The ship at that time had an angle of about I would say 40°. I stood around guessing what I would do next and I came to the conclusion that the best thing for me to do was to take to the water. So I told my wife to slide down to the water's edge on the starboard side; I was hanging in the meantime to the port side. I got down to the water's edge and was submerged in the water; I was on the submerged side of the ship. They were trying to cut adrift two life-boats, which they subsequently did. I took my wife in my arms and jumped for the rear life-boat. I asked one of the sailors to take her on board, which he did, while I hung to the outside. One of the seamen shouted for an axe for the forepart of the life-boat was still fastened to the *Empress'* davits. So they got an axe and cut the rope, and about half a minute I would say from the cutting of the rope—time to take two strokes of the oars—there was an

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explosion. I do not know whether it was the boiler or what it was, but there was certainly an explosion. Then the ship had an angle of, I would say, about 90°; some of the superstructure gave way and came down on a life-boat astern of us and took the people in it to the bottom, and they were killed or drowned. We got away, and about three-quarters of an hour after that we got on board the *Storstad*; we rowed to the *Storstad*. That is about all I know of it.

2387. Q. Any complaint with regard to the discipline or the order of the proceedings?—A. No, the seamen did their duty.

2388. Q. Did you see the *Storstad*? I mean, did you see her?—A. Yes, I saw the *Storstad* just immediately before I took the slide from the port to the starboard side.

2389. Q. Where was she then?—A. She was off on the port bow of the *Empress*, about half a mile.

By Lord Mersey:

2390. Q. On the port bow?—A. On the port bow, the left hand side of the *Empress*, about half a mile.

2391. Q. That was some time after the collision?—A. Well, about ten minutes, I would say.

By Mr. Newcombe:

2392. Q. Can you say whether your ship was making any headway at the time?—A. No, she was not; she was standing still. I could discern that from the objects in the water; there was nothing moving.

2393. Q. You could discern that when you were on the rail there?—A. On the rail, yes.

LORD MERSEY.—I do not myself think that to multiply this evidence will be to increase our knowledge of the facts.

MR. NEWCOMBE.—No, my Lord; but I thought it right to call some of the passengers.

LORD MERSEY.—You are quite right, but I do not think it is necessary to call a large number of them.

MR. NEWCOMBE.—We have another one of the same class here.

LORD MERSEY.—He says the same thing, does he?

MR. NEWCOMBE.—Each one had a somewhat different experience.

LORD MERSEY.—Exercise your own discretion, but I am telling you I do not think it will add very much to our knowledge.

SIR ADOLPHE ROUTHIER.—Was he a passenger?

MR. NEWCOMBE.—A passenger, yes. Mr. Black's wife is here, of course.

LORD MERSEY.—I do not think it necessary to have the lady come here.

MR. ASPINALL.—We are now going to the engine room department and we propose to call three witnesses, the officer who was in charge of the port engine, the officer who was in charge of the starboard side and Mr. Sampson, chief engineer, who came in late.

MR. NEWCOMBE.—We have a passenger, Mr. Henderson, of Montreal, whom my learned friend would like me to call.

LORD MERSEY.—Very well.

Witness discharged.

MR. NEWCOMBE.—Apparently Mr. Henderson is not here, but we will not delay; we will go on.

BLACK.

SESSIONAL PAPER No. 21b

LORD MERSEY.—If he comes later on you can call him.

ROBERT HENRY BRENNAN, junior 2nd engineer, *Empress of Ireland*.

By Mr. Meredith:

2394. Q. Mr. Brennan, what position did you occupy in the engine room of the *Empress of Ireland* at or just before the time she sank?—A. Junior second engineer.

2395. Q. Do you happen to know how many engineers they had on the *Empress of Ireland*?—A. Sixteen.

2396. Q. When did you go on watch in the engine room?—A. At midnight, sir, the 28th.

2397. Q. Who was on watch in the engine room; who was on duty in the engine room with you from that time up to the time of the sinking?—A. Mr. White, sir.

2398. Q. What other engineers?—A. Mr. Liddell, Mr. White, Mr. Liddell, Mr. Hampton, Mr. Smith.

2399. Q. Was there a Mr. McEwen in the stokehold?—A. Yes, Mr. McEwen and Mr. O'Donovan.

2400. Q. Hampton would not have been on the watch at the time of the collision?—A. No, sir.

2401. Q. But all the others were there?—A. Yes, sir.

2402. Q. Now, what engines were you looking after particularly in the engine room?—A. The main engine, sir.

2403. Q. I know, but was it on the starboard or the port side?—A. Port side.

2404. Q. Who was the engineer who had to look after the engines on the starboard side?—A. Mr. Hampton until two o'clock and Mr. Liddell from two o'clock.

2405. Q. Therefore, for some time before the collision Mr. Liddell had charge of the starboard engine?—A. Yes, sir.

2406. Q. Now, do you remember leaving Father Point?—A. Yes, sir.

2407. Q. Before we go further down the river, before you got to Father Point, do you remember the ship having been slowed down on one or two occasions?—A. Yes, sir.

2408. Q. Of course, being in the engine room, you could not tell for what reason?—A. No, sir.

2409. Q. After leaving Father Point—I want to make it as short as possible—will you state to the court what was the first indication on the telegraph as to speed after leaving Father Point?—A. Full speed, sir.

2410. Q. Have any of the log books of the engine room or the slates or scrap or anything of that kind, been preserved? Are they still existing?—A. Not that I am aware of, sir.

2411. Q. I mean to say, they went down with the ship?—A. Yes, sir.

2412. Q. Therefore, you have to depend on your memory and as to periods of time, I presume, like most people, and you cannot be very certain.—A. No, sir, merely approximation.

2413. Q. When you got full speed ahead after leaving Father Point, was that carried out on the engines?—A. Yes, sir.

2414. Q. Now, will you tell us the next indication of speed that you got in the engine room after that one?—A. About twenty-six minutes past two on our clock.

2415. Q. You don't know as to whether your clock agreed with the bridge clock?—A. No, sir.

2416. Q. I am asking you what were the next signals that you got from the bridge, as to speed, on the telegraph?—A. Stop, full speed astern.

2417. Q. Were they given one after the other, or were they given simultaneously?—A. Practically right around.

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2418. Q. Was that carried out?—A. Yes, sir.

2419. Q. Will you please tell us to the best of your knowledge for about how long the engines were kept full speed astern?—A. I should say about three minutes, sir.

2420. Q. Now, what was the next signal you got by the telegraph from the bridge?
A. Stop, sir.

2421. Q. Was that following the three minutes?—A. Yes, sir.

2422. Q. How long after that stop was it, to the best of your knowledge, before the impact took place, roughly speaking? How long from the stop was it before you felt any impact caused by the collision?—A. Well, from the engines were stopped after going full speed astern until the collision, I should say approximately four to five minutes.

2423. Q. In the engine room, I presume, you do not hear the siren, or very faintly?
—A. Only very rarely, sir.

2424. Q. Will you tell us what discipline there was, or whether there was a lack of any discipline in the engine room, up to the time the engine room was abandoned?
—A. None whatever, sir.

2425. Q. I would like you to describe that to the court and tell them exactly the situation down there?—A. Well, sir, practically immediately after the impact, there came a report from the stokehold to say that the vessel was making water.

2426. Q. The stokehold would be forward of the engine room?—A. Forward side of the engine, yes. And then practically on the top of that again came a few of the firemen and trimmers with the water at their heels. The water literally rose in the stokehold like that (indicating by a rising movement of his hand).

2427. Q. That was immediately after the impact?—A. Yes.

2428. Q. Now, before you go any further, in case I forget it, what had been done, if anything, to close the water-tight doors in the engine room?—A. The order had been given in the engine room to close the door immediately we saw the water.

2429. Q. The doors that you saw, that were visible to you; were they closed?—
A. Yes, sir.

2430. Q. Were they effectually closed?—A. Yes, sir.

2431. Q. Now, there would be certain doors communicating with the engine room, which you in the engine room would not be able to see closed?—A. Yes, sir.

2432. Q. Was anybody sent off to close those doors, or to see that they were closed?
—A. The chief engineer gave orders for the doors to be shut abaft the engine room. We could not see them.

2433. Q. Was anybody sent, to your knowledge—if it is not to your knowledge, do not say it—was anybody sent to see they were closed?—A. Not to my knowledge, sir.

2434. Q. Before the order was given?—A. Yes, sir.

2435. Now, at what period was it that any of the engineers in the engine room left the engine room? How long did they stay there?—A. Until the lights went out, sir; they just came out of the engine room when the lights went out.

2436. Q. At about what angle was the ship when the last of you—as I understand, you left together—when the last of you left the engine room?—A. Well, sir, I could not exactly say, but I know it was easier to stand on the columns of the engine than on the platform.

2437. Q. And you have to go up by—A. Three ladders, sir.

2438. Q. Little ladders that communicate with the upper deck?—A. Yes.

2439. Q. Had you to help each other along the flooring and up the ladder in order to get out?—A. Yes, sir.

2440. Q. Did the men in the engine room stand by their posts until they received any order, and if so, what order?—A. The order that that was all we could do—to go out—from the Chief Engineer.

2441. Q. In other words, you got the order that it was useless to remain any longer?
—A. Yes.

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2442. Q. As a matter of fact was there any steam at all available when you left?—
A. When we left the engines, sir, would be——

LORD MERSEY.—I do not know what all this is about.

By Mr. Meredith:

2441. Q. In addition to the signals you got from the bridge, indicating what movements to make on the engines, did you or did you not just before the collision receive any order from the bridge?—A. Yes, sir.

2442. Q. What was that?—A. Full speed ahead.

2443. Q. Was that just before the impact?—A. Yes, sir.

2444. Q. Could you give an idea to the court of about how many revolutions you would have made on that order of full speed ahead?—A. Well, I do not suppose we made any more than five or six revolutions.

2445. Q. Then by what was that followed, if it was followed at all, from the bridge; what order?—A. Stop, sir.

2446. Q. Was that order carried out?—A. Yes, sir.

2447. Q. Subsequently to that and after the collision, was anything done in the engine room with a view to sending her ahead and beaching her?—A. Please quote that again, sir.

2448. Q. After that order of stop, was anything done with the engines with the idea of beaching the ship, of sending the ship ahead and beaching her?

LORD MERSEY.—That is not a question to put to him. Ask him what was done, and it is for us to judge as to the intention. (To witness). Did you get any further order in the engine room after you got the order to stop?—A. Not by the bridge.

2449. Q. Not from the bridge. Then, did you in the engine room do anything without getting any order from the bridge?—A. The order of the Chief Engineer.

2450. Q. What did you do?—A. Started her again.

2451. Q. You started her again?—A. Yes.

2452. Q. At what angle was she lying at that time? Was the order of any use?—
A. No, sir, it wasn't; there was no steam to drive her.

By Mr. Meredith:

2453. Do you know whether the Chief Engineer had any telephone communication with the bridge at that time?—A. The Chief Engineer went to the telephone.

2454. Q. You don't know what happened? You don't know what transpired?—
A. I don't know, sir.

LORD MERSEY.—Is there any further question you would like to put, Mr. Newcombe, to this witness?

Mr. NEWCOMBE.—No, my Lord, I think not.

Cross-examined by Mr. Haight:

2455. Q. Mr. Brennan, were you on the engines when the steamer stopped at Father Point?—A. Yes.

2456. Q. Do you recollect how long the engines were stopped while you were letting the pilot off?—A. I could not say for certain.

2457. Q. Approximately?—A. I should say two to three minutes.

2458. Q. Had you reversed your engines and brought the steamer to a dead stop or had you slowed and run them in that way?—A. We had slowed down.

By Lord Mersey:

2459. Q. Is that when they dropped their pilot?

Mr. HAIGHT.—Dropped their pilot. (to witness).

2460. Q. Captain Kendall thought you had remained stationary in the water for about ten minutes at Father Point; you do not recollect?—A. I cannot say.

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2461. Q. Do you recollect the hour, according to the engine room clock, at which the steamer started away from Father Point?—A. Yes, sir.

2462. Q. What hour was that?—A. Seven minutes past two.

2463. Q. How many minutes were you running full speed ahead before you got the second order to stop?—A. About 19.

2464. Q. You think you were reversing full speed about three minutes?—A. Yes, sir.

2465. Q. Then you got the order to stop about 2.29?—A. About, yes.

2466. Q. Did you hear any whistles blown by the *Empress* before the collision?—A. We cannot hear anything in our engine room under certain conditions.

2467. Q. If your vessel was brought to a dead standstill at Father Point and you then started ahead full speed, how long do you think it would take you in minutes before your steamer actually gathered full headway of, say 17 knots?—A. I should say approximately a good hour.

2468. Q. After you had run 19 minutes how much speed do you think you had gathered?—A. I do not know.

2469. Q. A vessel of that size gathers headway slowly?—A. No, sir.

2470. Q. Do you, when you receive an order on the telegraph to put your stationary engines full speed ahead, throw your throttle wide open and give them full steam or do you really give them steam gradually?—A. Gradually.

2471. Q. It would be some minutes before you opened your throttle full?—A. Yes.

2472. Q. That is to avoid straining your engine?—A. Yes.

2473. Q. How many minutes after the full speed order was given elapsed before you threw the throttle wide open?—A. It was never wide open.

2474. Q. Up to the time you got the stop order at 2.26 you had not yet gathered speed enough to make it advisable to throw the throttle wide open?—A. No, sir.

2475. Q. You would not feel able to express an opinion as to what your speed was at 2.26?—A. No, sir.

2476. Q. What is the number of revolutions when your throttle is wide open and you are running full speed ahead?—A. That depends, sir.

2477. Q. How much steam did you have that night?—A. We had all pressures.

2478. Q. How many pounds on the main boilers?—A. Anything from 180 to 220.

2479. Q. You do not remember?—A. No, sir.

2480. Q. Assuming that you had 220 lbs. pressure what would be the number of revolutions if you had your throttle wide open and you had been running for some hours?—A. 70 to 71.

2481. Q. Do you happen to know approximately what your revolutions were at 2.26?—A. No sir, I could not say.

2482. Q. They were considerably below 70 to 71?—A. Yes, sir.

2483. Q. Would they be over 50?—A. Yes, sir.

2484. Q. Between 50 and 60 perhaps?—A. Yes, sir.

2485. Q. Did you have hold of anything when the jar came or when the jar was felt on your vessel?—A. I had hold of the wheel of the stop valve.

2486. Q. Was the vessel jarred enough that if you had not had hold of anything you would have been thrown from your feet?—A. No, sir.

2487. Q. Was there a very serious jar?—A. It sounded like a crash or tear.

2488. Q. It was more a tear than the bodily shaking of your ship?—A. Yes, sir, the ship never shook as far as I could feel.

2489. Q. There was no more real jar than if you were docking and going up against a pier, was there?—A. It was a pretty severe crash.

2490. Q. Where was the engineer at the time of the collision do you know?—A. On the top of the engine room.

2491. Q. On the upper grating?—A. Right on the top.

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2492. Q. Had he been there from the time you left Father Point?—A. I could not say.

2493. Q. When did you first see him after the collision; or had you seen him before the collision?—A. I could not say.

2494. Q. You do not remember whether you saw him after you left Father Point or not?—A. No, sir.

2495. Q. What speed would 71 revolutions give you, Mr. Brennan?—A. I cannot tell you offhand.

2496. Q. What is the pitch of your propeller?—A. 27 feet 9 inches.

2497. Q. Are both of the same pitch?—A. Yes.

2498. Q. One right and the other left?—A. Yes, sir.

2499. Q. What is the slip of the propeller?—A. It varies.

2500. Q. At full speed?—A. It varies.

2501. Q. What is the average slip at the average speed?—A. 11 to 12 per cent.

2502. Q. When you receive your order to put your engines full speed astern from full speed ahead, do you shut your steam off, throw your reversing gear and then gradually let the steam in, or do you change directly from full speed ahead to full speed astern without shutting the steam off?—A. No.

2503. Q. That would not be advisable?—A. No.

2504. Q. How long would it take from the time you got your full speed astern order before you got her really going full speed astern?—A. A matter of seconds.

2505. Q. As soon as you get your reversing gear over do you give her full steam?—A. Gradually.

2506. Q. Have you any idea how many revolutions you got your engines going full speed astern before you got her stopped?—A. No.

2507. Q. She would not really be making 70 turns?—A. That I could not say.

2508. Q. In 19 minutes you did not get your throttle full open going ahead; did you get it fully open going astern before you got your order to stop?—A. I beg your pardon.

2509. Q. Did you get your throttle open the full way after the reversing order during the three minutes you were reversing before you got the order to stop?—A. The stop valve full open going full speed astern.

By Lord Mersey:

2510. Q. Did you hear the question?—A. Yes, sir.

2511. Q. What was it?—A. He asked me did I get my throttle valve full open when the engines were reversing.

2512. Q. What is the answer?—A. Yes, sir; the engines were going astern two minutes, my Lord.

By Mr. Haight:

2513. Q. It is unusual to actually put your engines full speed astern from the order full ahead in so short a time as three minutes?—A. From full speed ahead to full speed astern?

2514. Q. Yes?—A. We open her up gradually, sir.

2515. Q. You opened her up so gradually going ahead that in 19 minutes you had not gotten her open?—A. Yes.

2516. Q. Would you, without orders through the speaking tube from the bridge, slap her over from full speed ahead to full speed astern and actually get your throttle wide open in a matter of 180 seconds—3 minutes?—A. Certainly, sir.

2517. Q. When you stop for a pilot or when you are manœuvring ordinarily you would take a good deal more time than that to put her over?—A. No, sir.

By Mr. Meredith:

2518. Q. How long had you been on this ship?—A. Five years and ten months.

2519. Q. What certificate have you?—A. A first class certificate.

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2520. Q. Do you know whether, at the time of the accident, the clock in the engine room agreed with the bridge clock? They sometimes differ.—A. I could not say.

By Chief Justice McLeod:

2521. Q. Was there any water in the engine room?—A. Practically none.

Witness retired.

ROBERT LIDDELL, senior 3rd engineer, *Empress of Ireland*, sworn.

By Mr. Meredith:

2522. Q. What position did you occupy on the *Empress of Ireland*?—A. Senior third engineer.

2523. Q. What engines were you attending to?—A. The starboard engines.

2524. Q. What certificate do you hold?—A. First class certificate.

2525. Q. How long have you had it?—A. Thirteen years.

2526. Q. How long have you been on the *Empress of Ireland*?—A. Five years and eight months.

2527. Q. When did you go on your watch?—A. Two o'clock.

2528. Q. That is engine room time?—A. By the engine room clock.

2529. Q. Do you remember arriving at Father Point where you dropped the pilot, or about when?—A. I remember that when I went down below the engines were stopped; I do not know where it was or anything else.

2530. Q. You do not know whether that was before you got to Father Point or not?—A. That I cannot say.

2531. Q. Do you remember the ship leaving Father Point after you dropped your pilot?—A. I presume so.

2532. Q. When did you go into the engine room?—A. Two minutes to two.

2533. Q. Was that before you dropped the pilot or afterwards?—A. That was when I went on watch at two minutes to two. I relieved Mr. Hampton at two o'clock, engine-room time.

2534. Q. Do you remember at any time getting any telegraph from the bridge as to the movement of your engines?—A. Yes.

2535. Q. What ones do you remember, shortly or briefly, shortly before the collision?—A. Yes.

2536. Q. You might tell these to the Court?—A. From full speed ahead to stop to full speed astern on the same order.

2537. Q. Three?—A. The telegraph stood full speed ahead and it was turned around to stop and full speed astern.

2538. Q. Was that order carried out?—A. Yes.

2539. Q. After that how long, to the best of your knowledge were the engines kept reversing?—A. Bear in mind that any time I shall give shall be approximate.

2540. Q. I understand.—A. About three minutes.

2541. Q. Then you got the order to stop?—A. Yes.

2542. Q. Was the order to stop carried out?—A. Yes.

2543. Q. From that period, about how long a time, giving it purely approximately, elapsed before the collision, roughly speaking?—A. About four minutes.

2544. Q. There are no logs, no slate, no nothing?—A. Not to my knowledge.

2545. Mr. MEREDITH.—I do not want to repeat, but perhaps I should go on and present evidence as to what transpired in the engine room in view of the fact that the public want to know all that happened. I do not want to take up the time of the Court, but I would like to go a little bit farther with this witness to prove what discipline there was in the engine room.

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By Lord Mersey:

2546. Q. Were you satisfied with the discipline of your men in the engine room?
—A. Perfectly.

By Sir Adolphe Routhier:

2547. Q. How many were there in the engine room?—A. There were five greasers and three engineers.

By Mr. Meredith:

2548. Q. How many were there in the stokerroom?—A. There were two engineers, fifteen firemen, twelve trimmers and two leading hands.

2549. Q. Were the full complement in the engine room and the boiler room at the time?—A. Yes, as far as my knowledge goes.

2550. Q. Do you know anything personally about the closing of the water tight doors in the engine room?—A. Yes.

By Lord Mersey:

2551. Q. What do you know?—A. I gave the order to close 90 bulkhead door.

2552. Q. When?—A. Directly after the collision. What I mean to say by directly after is anything from 50 to 30 seconds.

2553. Can you tell us anything else about closing of the doors?—A. No, I cannot say anything further.

2554. Q. Was the door closed?—A. Yes, sir.

By Mr. Meredith:

2555. Q. Do you know whether any of the people in the engine room were sent to see that doors that opened on the engine room were closed?—A. I cannot say.

2556. Q. You do not know that personally?—A. No.

By Chief Justice McLeod:

2557. Q. Was there any water in the engine room?—A. Not to my knowledge. We saw the water running in and we closed the water tight door.

By Lord Mersey:

2558. Q. Then there was some water?—A. Yes; but very little.

By Mr. Meredith:

2559. Q. Where did that water come from?—A. From the stokehole.

2560. Q. That water that came from the stokehole came through the door you saw closed?—A. Yes.

2561. Q. Is that a vertical door or a horizontal door?—A. A vertical door.

By Lord Mersey:

2562. Q. Where was that door in reference to you?—A. Forward of where I was standing.

2563. Q. Do you know where the ship was struck?—A. That I cannot say.

2564. Q. Can you tell us whether the water was coming from a point about where the ship was struck?—A. That I cannot say. The water just came up like that (indicating).

Mr. ASPINALL.—I have had made a very simple plan showing the decks, the various bulkheads, the water lines and port holes which I think would be of very great assistance to the court. If your Lordship would like to have that information I will hand it up. (Plan handed in and marked 'I').

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By Lord Mersey:

2565. Q. Forward of the engine room is the stokehole?—A. Yes.

2566. Q. The water-tight vertical door which you spoke of was a vertical door between the engine room and the stokehole, was it not?—A. Yes, my Lord.

2567. Q. And that door was closed, as you say?—A. Yes.

2568. Q. Before it was closed water was coming in through it?—A. Yes.

2569. Q. Was much water coming in through it before it was closed?—A. There was a good bit.

2570. Q. Sufficient to cause alarm as to the safety of the ship?—A. Yes, my Lord.

2571. Q. Are there, on each side of the engine room, coal bunkers?—A. Yes, my Lord.

2572. Q. Are these coal bunkers separated from the engine room by a longitudinal bulkhead?—A. Yes.

2573. Q. Is the forward part of the coal bunker crossed by a longitudinal bulkhead in which the vertical door was which you are speaking of?—A. Yes, right in the centre.

2574. Q. Is the coal bunker closed at its forward end by a water-tight door?—A. A water-tight bulkhead.

2575. Q. Is there a door in the bulkhead?—A. Yes, a water-tight door.

2576. Q. Therefore, there is at the forward part of each coal bunker at the side of the ship, a water-tight door.—A. The door I was speaking of is at the aft part of No. 4 stokehole, the aft part of the bunker?

Q. I know that and I am now speaking about another door. I want to know whether there is not, in the bulkhead in which you closed the vertical door, another door at the end of the coal bunker?—A. Yes.

2577. Q. And that is a water-tight door?—A. Yes.

2578. Q. Was that closed?—A. I cannot say.

2579. Q. That might have been open?—A. That is not left to me. All these doors and the doors in the bunkers is the work of the senior second engineer.

2580. Q. You cannot tell us whether this was closed or not?—A. I cannot say.

2581. Q. But if it was not closed the water which you saw coming through the door that you saw closed would come through the door that I am now speaking of?—A. If it was not closed.

2582. Q. And you cannot tell us whether it was closed or not?—A. That I cannot say.

2583. Mr. MEREDITH.—May I produce the copy of a plan that may show the position of the boiler room and the engine room?

LORD MERSEY.—No, I do not want it. Mr. Aspinall says that it will be of great assistance to me but this plan only confuses my brain. In proper time they will come in. You can show them to the witness in order to assist him and to show us what he is talking about, but the proper time to put these plans in is when you call the builders, or the representatives of the builders, from whose possession I understand these plans come.

Mr. MEREDITH.—That is absolutely agreeable to me. I thought that the court might think the plan of some use.

LORD MERSEY.—Is there anything else you wish to ask the witness?

Mr. MEREDITH.—Only one question.

LORD MERSEY.—Let it be one.

By Mr. Meredith:

2584. Q. Was there any drill in regard to the closing of the water-tight doors in the engine room and, if so, when and how?—A. The water-tight doors were shut every morning about ten o'clock.

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By Lord Mersey:

2585. Q. Did that happen before you left Quebec?—A. Yes, sir.

LORD MERSEY.—That is your one question.

Mr. MEREDITH.—That is my question, my Lord.

Cross-examined by Mr. Haight:

2586. Q. Mr. Liddell, can you tell me the number of the bulkhead through which you saw the water coming?—A. No. 90.

2587. Q. That is the number of the door, not the number of the bulkhead?—A. That I cannot say; the number of the water-tight door is 90.

2588. Q. All the water-tight doors are numbered throughout the ship?—A. Yes,

LORD MERSEY.—Mr. Aspinall, have you any transverse plan to show where this door was or where these doors were?

Mr. ASPINALL.—The plan I hand up will show that. (Plan handed up and marked 'J.')

LORD MERSEY.—I have marked on this plan the position of the door at the end of the coal bunker which opens from the bulkhead into the engine room that this witness speaks of. I am told that these doors which he says existed in the *Empress of Ireland* are not indicated on the plan. Will you just look and see?

Mr. ASPINALL.—I think this gentleman is wrong. I have not studied this part of the case with great care but it came as a surprise to me that the doors which he spoke of existed in fact. I do not think so. One of the doors does but not those at the end of the bunkers.

LORD MERSEY.—Yes, there is no doubt that the door that he spoke of as having been closed exists and I suppose it is indicated upon that plan?

Mr. ASPINALL.—It would be, my Lord.

LORD MERSEY.—It has been suggested to me that there were longitudinal bulkheads on each side of the ship, to the starboard and port sides of the engine space and that between these longitudinal bulkheads and the skin of the ship there were coal bunkers—that in fact they formed the coal bunkers—and at the end of each of these coal bunker spaces there were water-tight doors in the bulkhead, which doors opened into the engine space and which are the doors which the witness has spoken of. On the plan you have handed up no such doors are shown. Are you informed that these doors do not exist?

Mr. ASPINALL.—Yes, that is what I am informed.

LORD MERSEY.—This witness was evidently under a wrong impression. Perhaps he was answering, as so many witnesses do, rather from the suggestion that was made to him—my suggestion—than from knowledge.

(To witness.)

Q. Are you sure you are following what I say?—A. Yes.

2589. Q. You heard it?—A. Yes.

2590. Q. Are you sure there were water-tight doors at the forward end of these two coal bunkers?—A. The bunkers you speak about are what we call reserve bunkers.

2591. Q. Call them what you like—are you sure that at the forward end of these bunkers there were water-tight doors?—A. Yes.

Mr. ASPINALL.—Mr. Hillhouse, the naval architect of Fairfields Shipbuilding Co. is here and he could give you much more accurate information in regard to these points.

LORD MERSEY.—It would be convenient, because we have to understand this gentleman's evidence, to call Mr. Hillhouse and to have him sworn now.

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PERCY HILLHOUSE, naval architect, sworn.

By Lord Mersey:

2592. Q. Tell us about these supposed water-tight doors.—A. The two doors to which the engineer has referred are in the bulkhead between the engine room and the after boiler room at a higher level than the door which he saw closed. They are at the fore end of the two coal bunkers which are situated one on each side of the engine room between the lower and main decks and they are shown upon the lower deck plan of the ship.

2593. Q. Let us see the lower deck plan. Is the sill of these two doors opening into the coal bunkers higher than the top of the door that this witness speaks about as having been closed?—A. Yes.

2594. Q. They are not on the same level?—A. No, my Lord.

By Chief Justice McLeod:

2595. Q. How much higher would it be?—A. The sill of the door is about 14 feet above the top of the other one.

Mr. Hillhouse retired.

LORD MERSEY.—Is there any one who can tell us whether these bunkers were being used as cargo space or as reserve bunker space on the occasion of this voyage?

Mr. ASPINALL.—I think the chief engineer would know; he must know. We have him here and we propose to call him next.

LORD MERSEY.—Be sure that he is asked the question.

R. LIDDELL, examination resumed:

By Mr. Haight:

2591. Q. Did you, Mr. Liddell, notice the times at which you received orders to stop and go astern?—A. I cannot say.

2592. Q. Was there anybody who logged those bells which you received?—A. Yes.

2593. Q. Who?—A. Mr. White.

2594. Q. You did not look at the clock?—A. No.

2595. Q. You heard the testimony given by Mr. Brennan as to the gradual opening of his throttle after you left Father Point, and so forth?—A. Yes.

2596. Q. Did you manœuvre the starboard engine practically in the same way as he did the port?—A. Exactly the same.

2597. Q. I have here a transverse plan of the bulkheads starting with No. 1 immediately after the collision bulkhead and going down the steamer. Is that correct?—A. Yes.

2598. Q. Through which of these bulkheads was the door open where the water was entering—where the water came in from the stokehole?—A. Where your finger is—the fourth one along; that is the door. (Referring to plan in the hands of Mr. Haight).

2599. Q. That is the bow?—A. Oh, that is the bow of the ship?

(At this point the plan was placed before the witness.)

By Lord Mersey:

2600. Q. What is the number of the bulkhead?—A. No. 90 door.

2601. Q. Do you know what the number of the bulkhead is?—A. I cannot tell you the number of the bulkhead.

2602. Q. What are the bulkheads numbered on that plan?—A. No. 6.

Mr. ASPINALL.—That is right.

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By Mr. Haight:

2603. Q. You were standing aft of No. 6 bulkhead?—A. Yes.

2604. Q. You have no knowledge as to how far forward of No. 6 the hole was in the starboard side of your ship?—A. None whatever.

By Chief Justice McLeod:

2605. Q. It was forward of No. 6?—A. Yes.

By Mr. Haight:

2606. Q. You closed the water-tight door as soon as you saw water coming in?—
A. I did not close it.

2607. Q. Was it closed?—A. Yes.

2608. Q. Was it before or after the fireman had come out of the stokehole?—A. It was after one of two firemen had come out of the stokehole or the engine room. The remainder, as far as I know, went up the ladder.

2609. Q. When you closed the watertight door did it effectively keep the water out?—A. Yes.

2610. Q. When you left the engine room was it dry?—A. When I left the engine room where I was standing was perfectly dry.

By Lord Mersey:

2611. Q. What had become of the water which came through the door before it was closed?—A. It went over to the starboard side of the ship. I was standing in the centre of the ship.

By Mr. Haight:

2612. Q. You were working the starboard engine?—A. Yes.

2613. Q. Which was the door you closed, the starboard or the port door?—A. There is only one No. 90 door to my knowledge.

2614. Q. Is that on the starboard side or the port side?—A. It is in the centre.

2615. Q. You spoke about the water rising like that and you made a gesture?—
A. Yes.

2616. Q. Where did the water rise as rapidly as that?—A. In the stokehole; it came rushing through the door.

2617. Q. How long had you been on the *Empress of Ireland*?—A. Five years and eight months.

2618. Q. Always in the engine room?—A. No.

2619. Q. Started as a fireman?—A. I started in the engine room and I have been in the stokehole as well.

2620. Q. What is the system of your steering gear on the *Empress of Ireland*?—
A. Yes.

2621. Q. Have you ever happened to overhaul it?—A. Yes.

2622. Q. How often?—A. For eighteen months I was on the steering gear alone.

2623. Q. You mean working steadily on the steering gear?—A. In charge of the steering gear.

2624. Q. How often did you actually overhaul it and work on it?—A. I used to go around every time in port and see that everything was correct.

2625. Q. What is the system?—A. There is one engineer—

2626. Q. I mean what is the system of gear?—A. The telemotor.

2627. What is the telemotor gear?—A. It would take a long time to explain that.

2628. Can you outline it in a couple of minutes?—A. No.

LORD MERSEY.—Don't try.

By Mr. Haight:

2629. Q. It differs from the ordinary steam gear in that you have a cylinder filled with glycerine and when you turn the wheel the glycerine is forced from one end of the

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cylinder to the other?—A. Glycerine and water.

2630. Q. And the glycerine works on the piston rods?—A. Yes.

2631. Q. During the time you were in charge of the steering gear, did it at any time give you trouble?

LORD MERSEY.—At what time was he in charge of it?

By Mr. Haight:

2632. Q. When was the period of eighteen months that you were in charge of the steering gear?—A. It dates back eight months from now. Previous to the present day I was in charge of the steering gear.

By Lord Mersey:

2633. Q. For the eight months preceding the catastrophe you were not in charge of the steering gear?—A. No.

2634. Q. Who was?—A. W. O'Donovan.

2635. CHIEF JUSTICE MCLEOD.—You were in charge eight months previous to that?—A. Yes.

By Lord Mersey:

2636. Q. There had been a great many changes from the time you gave up charge of the steering gear to the date of the catastrophe?—A. Yes.

By Mr. Haight:

2637. Q. Did Mr. O'Donovan survive?—A. Yes.

2638. Q. Did you personally do any work at all on the steering gear during the eight months preceding the catastrophe?—A. Yes.

2639. Q. How long before the collision did you work on the steering gear?—A. We are always doing something at any part of the ship.

2640. Q. What was the last time you worked on the steering gear before this collision? Was it the night of the collision?—A. I beg your pardon.

2641. Q. What was the time that you worked upon this steering gear last immediately before the collision?—A. It is eight months ago.

2642. Q. I understood you to say that during the eight months preceding the collision you had personally done some work on the steering gear although not in charge?—A. No, I have done no work.

2643. Q. Then you had never touched the gear at all during the eight months?—A. I was in charge of the steering gear for 18 months I said, but eight months previous to the collision.

2644. Q. And during the eight months previous to the collision you never touched the steering gear at all?—A. No.

2645. Q. Do you know whether there actually was some work done on the steering gear immediately after the *Empress* arrived at Quebec on her inward voyage before she started out on this particular voyage?—A. I do not know.

2646. Q. Do you know whether the steering gear was overhauled?—A. I do not know.

2647. Q. Wait until I finish the question. Do you know whether the steering gear was overhauled between the time the *Empress* left her dock and the time she reached Father Point?—A. I do not know.

2648. Q. Have you had any discussion with O'Donovan at all about the steering gear?—A. No.

LORD MERSEY.—Are you suggesting that the steering gear was not in proper order?:

MR. HAIGHT.—Yes, my Lord.

LORD MERSEY.—Why did not you put that question to the Captain?

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Mr. HAIGHT.—Because I had not any information at the time the Captain was on the stand.

LORD MERSEY.—I suppose this is some information you have got within the last 48 hours?—A. Yes.

Mr. HAIGHT.—Yes, my Lord, within the last 12 hours. Mr. Newcombe is advised of the information and has taken steps to call witnesses.

Mr. NEWCOMBE.—I understand that my learned friend proposed to call witnesses in regard to it.

LORD MERSEY.—We will see, Mr. Newcombe.

Mr. NEWCOMBE.—I would like to put one or two questions to Mr. Liddell, if I might have a moment?

LORD MERSEY.—Very well.

By Mr. Newcombe:

2649. Q. Did you state that you put the engines ahead immediately before the collision?—A. I didn't state that.

2650. Q. Well, do you know anything about that, were they put ahead immediately before the collision?—A. The telegraph rang full speed ahead.

2651. Q. And did she go full speed ahead?—A. We started it, and the collision occurred.

2652. Q. How long before the collision occurred?—A. Well, the engines made, as near as I can estimate, about five or six revolutions.

By Chief Justice McLeod:

2653. Q. Just immediately before the collision?—A. Yes.

Witness retired.

2654. Q. LORD MERSEY.—Now, who is the next witness?

Mr. MEREDITH.—I would like to ask some questions of the chief engineer.

LORD MERSEY.—How many witnesses are there from the engine room?

Mr. ASPINALL.—In addition to those that have been heard and the chief engineer, I have three officers. I do not think they will add anything to what has been already proved, but they are here at the disposal of the Court if any one wants them. I do not myself propose to call them.

LORD MERSEY.—Well, Mr. Meredith, will you go ahead with the examination of the chief engineer.

WILLIAM SAMPSON, chief engineer, *Empress of Ireland*, sworn.

By Mr. Meredith:

2655. Q. What position did you occupy on the *Empress of Ireland*, Mr. Sampson, at the time of the accident?—A. Chief engineer.

2656. Q. How long have you been chief engineer on the *Empress of Ireland*?—A. I have been on her eight years on the 1st of March last.

2657. Q. How long have you been an engineer, for how many years, roughly speaking?—A. Thirty-four years.

2658. Q. Before the *Empress* you were on other Canadian Pacific boats and other boats?—A. Yes.

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2659. Q. Now, you remember the ship reaching Father Point, do you?—A. I do, sir.

2660. Q. Prior to her reaching Father Point, are you able to tell us whether the ship on one or two occasions had slowed down on account of fog?—A. Yes, very slightly, just a few minutes on each occasion.

2661. Q. On two occasions?—A. Yes.

2662. Q. Now, when she reached Father Point, when did you leave the engine room, the superintendence of the engine room, how soon after?—A. I do not take the superintendence of the engine room.

2663. Q. Oh, I beg your pardon?—A. I am standing there looking around in general about everything until we leave Father Point. That is generally my practice.

2664. Q. Well, then, how soon after the ship left Father Point did you go to your room?—A. Oh, I suppose about five minutes.

2665. Q. Was the ship then on full speed ahead?—A. The telegraph was at full speed and they were getting their steam up.

2666. Q. And the weather was clear?—A. As far as I knew by looking through the port, I think it was clear.

2667. Q. Then about five minutes after leaving Father Point you went to your room?—A. Yes.

2668. Q. Yours is an inside room?—A. Yes, amidships.

2669. Q. Near the engine room?—A. About fifty feet abaft the engine room.

2670. Q. Now, about when did you leave your room to go to the engine room?—A. After I heard the engines going full speed astern.

2671. Q. After you heard the engines going full speed astern, you left your room and went to the engine room?—A. Yes, I went to the engine room.

2672. Q. What did you find? Did you find the full complement of engineers at their places working?—A. Yes, sir.

2673. Q. Now, will you tell us what the full engineering staff on the *Empress of Ireland* is so that we will have it before the court?—A. Eighteen officers all told, that is, fifteen engineers, two electricians and myself as chief.

2674. Q. And what additional help have you in the engine room, besides the officers?—A. Well, we have altogether 135 all told, that is divided into donkey-men, storekeepers, greasers—I think there are eighteen greasers, six leading firemen, and the remainder are divided between firemen and trimmers. The total is 135.

2675. Q. Now, of all the engineers you have on that ship, what proportion of them hold first-class certificates?—A. Eleven.

2676. Q. Can you state to the court the nature of the equipment in the engine room?—A. I should say first-class order throughout.

2677. Q. Now as to the steering-gear, in what condition did you find that?—A. Perfect order.

2678. Q. And is this since you have been on the ship?—A. Always.

2679. Q. I understand you have been on the ship for eight years?—A. Yes, eight years the first of March last. Always in perfect order.

2680. Q. Are you in a position to give any information to the court as to the signals from either ship?—A. No, sir.

2681. Q. Your cabin is an inside cabin?—A. Yes, an inside cabin.

2682. Q. Now will you state to the court what you did when you got into the engine room?—A. Well, on my way to the engine room I gave orders to everyone that was standing around to get to the bulkhead doors as quickly as possible, to close them; and I made my way to the engine-room, but on my way down, I noticed the ship was listing badly, and as soon as I got down I saw the bulkhead doors just coming down, that is, No. 90 bulkhead, which was just closing.

2683. No. 90?—A. Yes, that is No. 6 bulkhead as you have it on those plans.

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2684. Q. That is right.—A. That was just coming down, and of course that absolutely cut off all water from the stoke-hold to the engine-room, and we were practically dry, with the exception perhaps the starboard bilge would be flooded. I then gave orders to try and get the bilge injectors under way.

2685. Q. To get rid of the water, to get it out of the ship?—A. To get ready for it. I didn't think we were in such danger. And then I saw everything was stopped, and I rang to the bridge to the Captain by 'phone, and I said "For Heaven's sake try and beach her," and he said "Do the best you can," and we got the engines under way a few minutes.

By Lord Mersey:

2686. Q. Do you mean a few minutes?—A. A few seconds, sir.

2687. Q. Then why do you say minutes when you mean seconds?—A. A few seconds, sir, it was all done in a very short time I can assure you.

By Mr. Meredith:

2688. Q. Did the men remain at their posts, and if so, how long, and when did they leave?—A. They remained until I told them to go away.

2689. Q. And why did you tell them to go away, I suppose that is self-evident?—A. To try and get out as quickly as possible. I told them to go and save themselves.

2690. Q. Had you and the men any difficulty in getting up the ladder?—A. They had. I could not have got up without their help. They stopped by me.

2691. Q. It has been said by the previous witness that there was drill in regard to the closing of the doors?—A. Always.

2692. Q. Are you present when that drill takes place?—A. Always either I or the senior second engineer, but generally myself.

2693. Q. And that is done, I understand from the previous witness, every morning?—A. Yes, every morning at ten-o'clock

2694. Q. After that is done, is any certificate to the effect it has been done handed to the Captain?—A. Well, I wait at the engine-room door and notify the Captain on going his rounds.

2695. Q. LORD MERSEY.—So far, I have heard no suggestion that these drills were not properly attended to, and I have heard no reflection upon either the conduct of the men in the engine-room or upon the condition of the machinery, except the steering gear, and I shall assume that everything is in order unless someone suggests to me that it was not.

Mr. MEREDITH.—I quite understand that, my Lord, but I was anxious that the Court should be informed.

LORD MERSEY.—I think it is altogether beside what we have to do.

Mr. MEREDITH.—I thank your Lordship, I have no more questions.

By Mr. Haight:

2696. Q. When you left the engine-room, Mr. Sampson, after the *Empress* had started away from Father Point, I understood you to say that the telegraph stood at full speed ahead and that you were getting up steam?—A. That is right.

2697. Q. How many pounds of steam did you then have?—A. I couldn't say, I was not down below.

2698. Q. Would anybody know?—A. Yes, I should think so. I will give an approximation—I should think she would have 200 pounds.

2699. Q. You think she would have 200 pounds?—A. Yes.

2700. Q. And your maximum is what?—A. 220.

2701. Q. That is your safety valve blows off at 220?—A. Yes.

2702. Q. Did you yourself hear any whistles blown by the *Empress*?—A. None whatever.

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2703. Q. Whenever any repair work is needed on any part of your engine, including the steering gear, are you informed?—A. I give the orders, as a rule.

2704. Q. Then if there is any trouble with the steering gear in particular, a report would be made to you to that effect?—A. Naturally, I should imagine so.

2705. Q. Has that been the past experience?—A. Always.

2706. Q. And during the time you have been Chief Engineer on the *Empress of Ireland*, how often have you received a report that the steering-gear needed overhauling for one reason or another?—A. That it needed overhauling?

2707. Q. Yes? That it needed overhauling, that it was not working well?—A. Well I don't think I have heard it above once or twice in the whole eight years.

2708. Q. Well, when was it you last got such a report?—A. I really couldn't say, it is so long ago.

2709. Q. Have you had the telemotor system on the *Empress* since she was built?—A. Yes.

2710. Q. Now what has been the nature of the complaint when you did get a report that it was not working right?—A. Well I have never heard of it being really out of order. Perhaps there was a little water passing the leathers, but that is neither here or there. It might want pumping up. That is the only thing that I know of.

2711. Q. Have you ever heard the report that your steamer did not steer well, and when they wanted to change the course and sheer from one side, the wheel had to be put all the way over to counteract a sheer?—A. I don't know anything about that.

2712. Q. Have you ever heard quartermasters complain that it was so hard to turn your wheel to pump the glycerine from one side to another, that a man had to physically strain himself to do it?—A. There is no necessity to strain with that gear.

2713. Q. Have you ever heard of a complaint from a quartermaster that he did have to strain himself?—A. I don't take quartermaster's reports.

LORD MERSEY.—Please answer the question... Have you ever heard of such a complaint from a quartermaster?—A. I never heard a quartermaster complain.

By Mr. Haight:

2714. Q. Have you ever heard that a quartermaster did complain?—A. Never to my knowledge.

LORD MERSEY.—Will you please suggest to us, Mr. Haight, what the quartermaster complained of, when he complained, and what he said when he did complain?—A. I haven't the information, my Lord, in quite as specific a form as that.

LORD MERSEY.—Then put it in the unspecific form, only let us have it.

Mr. HAIGHT.—My information is... I don't know the man's name nor the time it happened, but my information is that one of the quartermasters on the *Empress of Ireland* threatened to bring suit... grotesque as it may seem... against the Canadian Pacific Railway Company, because he had been strained in working the steering gear on the *Empress of Ireland*. Have you ever heard of that, Mr. Sampson?—A. He must be a very weak man indeed or a baby.

2715. Q. I think the name of the quartermaster was Cadwadaller. Do you remember any such man?—A. No, sir.

LORD MERSEY.—A Welsh name, evidently.

By Mr. Haight:

2716. Q. You yourself have never heard it was difficult to turn the wheel and pump the glycerine from one side to the other?—A. No, sir.

2717. Q. How often is the glycerine changed?—A. Well, it is made up probably every three or four months. There is apt to be a little leakage through and that is made up.

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2718. Q. Does the consistency of the glycerine alter any while it is in the cylinder?
—A. No, I don't think so.

2719. Q. It does not thicken?—A. Not a bit.

2720. Q. Have you ever worked at the wheel yourself?—A. Yes.

2721. Q. Does it happen if you put the wheel over rapidly and let it go it will of itself start back again?—A. Sure.

2722. Q. Why is that?—A. As soon as you get it to the piston on the other side it brings it back to the central position.

2723. Q. My information may be very imperfect, but as I understand the tele-motor system, when you turn the wheel to starboard you pump an amount of glycerine from one side of the cylinder to the other?—A. You actuate the steam-engine from your motor.

2724. Q. What is that?—A. You actuate your steam valve. That does the steering.

2725. Q. But does the glycerine, as it empties one side and fills the other, start the steam valve upon that side?—A. The piston.

2726. Q. And then as long as the wheel remains in that position the rudder will continue to be turned in the appropriate direction?—A. True.

2727. Q. So your wheel must be brought amidships in order to have the steam bring your rudder back amidships?—A. No, no, the wheel does that itself. That comes back itself by releasing the wheel; that comes back to amidships position.

2728. Q. If then your system is in perfect order, your wheel will come back to amidships automatically?—A. Sure.

2729. Q. Now, what would be the defect which would cause it not to come back automatically?—A. Well I can't say that.

2730. Q. Suppose some glycerine had leaked out of the cylinder, would that do it?
—A. But we don't allow it to do so.

2731. Q. But would it, if you did allow it to do so?—A. Of course it would if the system is slack.

LORD MERSEY.—Not to waste too much time on this, Mr. Haight, can you tell us when it was that this complaint was made which you are referring to?

MR. HAIGHT.—Well, your Lordship, I haven't the hour.

LORD MERSEY.—Oh, never mind the hour.

MR. HAIGHT.—Well, I haven't the day, nor the month, nor even the year, but I will have before the day is out.

LORD MERSEY.—Who is going to bring the information?

MR. HAIGHT.—A former quartermaster of the *Empress*, and the man who was at the wheel of the *Empress* from ten o'clock to twelve on the night of the collision.

LORD MERSEY.—Is he the man that made the complaint?

MR. HAIGHT.—No, my Lord.

LORD MERSEY.—The man who made the complaint was named Cadwallader, I understand?

MR. HAIGHT.—That is my information, my Lord.

LORD MERSEY.—Where is he?

MR. HAIGHT.—I don't know my Lord.

LORD MERSEY.—Does he exist?

MR. HAIGHT.—I have only been told of him, and so cannot say for certain that he does exist, but the man who does exist, my Lord, was at the wheel of the *Empress* up to twelve o'clock on the night on which she sank.

LORD MERSEY.—Now, that is very much to the point.

2732. Q. Do you know, Mr. Sampson, who was at the wheel up to midnight before this accident?—A. No, sir.

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2733. Q. Does anyone know?—A. I presume the captain will know.

LORD MERSEY.—Where is the captain?

CAPTAIN KENDALL.—Here, sir.

2734. Q. What is the name of the man who was at the wheel up to midnight on the night of the accident?

CAPTAIN KENDALL.—Galway, I believe, sir.

2735. Q. Is he in court?

CAPTAIN KENDALL.—I believe so.

LORD MERSEY.—In the meantime, Mr. Haight, will you please continue with the examination of the Chief Engineer.

By Mr. Haight:

2736. Q. You, Mr. Sampson, as I understand it, heard absolutely no complaint that the steering gear of the *Empress* during the watch from eight to twelve, while you were on the way down the river, had been giving trouble?—A. None whatever.

2737. Q. Were you on duty while the *Empress* was coming up to Quebec on her westbound voyage, immediately before the accident . . . are you usually in the engine room when going up and down?—A. Between my room and the engine room. Probably on deck.

2738. Q. Do you happen to remember hearing that on the way up, and just before you got to Quebec, perhaps an hour or two before, there was a sheer on your vessel and that you nearly ran down a two-masted schooner?—A. I never heard that.

LORD MERSEY.—When did you first get that suggestion, Mr. Haight?

MR. HAIGHT.—About nine o'clock last night, my Lord, from the same witness.

LORD MERSEY.—Because it is difficult to deal with this case if all the witnesses go out of the witness box without having these circumstances put to them. Captain Kendall was never asked a word about this. It may be that your information comes to you extremely late, but I wish you would take care to inform the other side of these facts, so they may be able to deal with them—if they be facts.

MR. HAIGHT.—Possibly, my lord, you would like me to make a statement of what I heard and from whom I heard it?

LORD MERSEY.—Might I suggest to you not to pay too much attention to little bits of suggestions. I get by post every morning all sorts of suggestions, and if I wanted to attend to them all I should never come to the end of my business. So don't be misled. Now let us hear what you have to say, Mr. Haight.

MR. HAIGHT.—Does your Lordship desire that I should state how I happened to hear it?

LORD MERSEY.—By all means.

MR. HAIGHT.—Last night about seven o'clock my telephone rang, and a man said 'I am a quartermaster on the *Empress*, can I see you?' I said 'Have you been called as a witness?' I thought it was our friend Murphy.

LORD MERSEY.—But none of the quartermasters have been examined?

MR. HAIGHT.—Yes, my lord, Murphy, the last witness examined yesterday afternoon, was one of the quartermasters. I thought it was possibly Murphy, and I asked him if he had been called, and he said 'No.' I asked him if he was to be called, and he said 'No.' I waited a moment and then I said to come up. I telephoned my partner, Mr. Griffin, to come in. The man came into the room and said: 'I was a quartermaster on the *Empress*, and I have been advised by some representative of my union to come and see you.'

LORD MERSEY.—Do you know anything about this, Mr. Gibsone?

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Mr. GIBSONE.—Nothing whatsoever.

Mr. HAIGHT.—I asked him if it was Mr. Gibsone who had advised him to come and see me, and he said no, it was one of the members of the union, a delegate or something.

LORD MERSEY.—Did you ask the name of the delegate.

Mr. HAIGHT.—I don't remember that I did, my Lord.

LORD MERSEY.—Or where he was. did you ask him that?

Mr. HAIGHT.—No, my Lord, but I had much better information a moment later.

LORD MERSEY.—Very well. he said he had been advised by a delegate of his Union to come and see you, I understand?

Mr. HAIGHT.—Yes, and he said that he had been requested by the C.P.R. officials to take a steamer back, that he had been told to go on one steamer and had declined. I was skeptical, my Lord.

LORD MERSEY.—You were quite right.

Mr. HAIGHT.—I thought, my Lord, that when he said to me that the attorneys for the C.P.R. did not want him, and, therefore, he had been told that perhaps I would, that it was a direct bid for bribed testimony.

LORD MERSEY.—Did he want some money from you?

Mr. HAIGHT.—He did not, my Lord. I very nearly showed him the door. But when he made the statement that there was trouble with the steering-gear, I then did not open the door. He told me that for five minutes on the way down the river the steering-gear did not work, on the night of this accident. I immediately left my room.

LORD MERSEY.—Had you found out his name by this time?

Mr. HAIGHT.—Yes, my Lord, I had his name before he had been inside the room two minutes.

LORD MERSEY.—What was his name?

Mr. HAIGHT.—James F. Galway.

LORD MERSEY.—Why isn't he here?

Mr. HAIGHT.—He is to be here at two o'clock.

LORD MERSEY.—Where is he now?

Mr. HAIGHT.—At the Neptune Inn.

LORD MERSEY.—I think it will be wise for you not to leave him too long in the Inn.

Mr. HAIGHT.—I was exceedingly skeptical of the entire story, my Lord, until he showed me a letter, dated June 12th, 1914, reading as follows: 'Captain Griffith, ss. *Montreal*. . .

LORD MERSEY.—From whom is that letter?

Mr. HAIGHT.—It is signed by John F. Walsh, Chief Marine Superintendent of the C.P.R., on the Canadian Pacific Railway Company's letter-head.

LORD MERSEY.—Who is Mr. Walsh?

Mr. ASPINALL.—He is the Marine Superintendent of the line.

Mr. HAIGHT.—The letter read: 'Dear Sir,— . . . this is to the Captain of the *Montreal* . . . 'Please arrange to sign on the bearer, J. Galway, as supernumerary quartermaster for passage home. He is one of the crew who was saved from the *Empress of Ireland*.' Then he said to me 'I didn't want to go on the *Montreal*. . .

LORD MERSEY.—Is that all the letter?

Mr. HAIGHT.—Yes, my Lord.

LORD MERSEY.—What is the significance of it?

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Mr. HAIGHT.—The significance is that he told us, my Lord, that he had been told by the C.P.R. people to start for the other side, and he further told us: 'I did not want to go; I did not take the *Montreal*, and I have now been told to sail to-morrow at four o'clock on the *Calgarian*.'

LORD MERSEY.—Had he been applying to be taken on?

Mr. HAIGHT.—No, my Lord, he told me he had seen a representative of the C.P.R. in Montreal, and had been told to keep his counsel.

LORD MERSEY.—Then is it your suggestion, Mr. Haight, that somebody connected with the C.P.R. as you call it, was attempting to get this man out of the way?

Mr. HAIGHT.—I regret to say, my Lord, I can think of no other explanation.

LORD MERSEY.—Then that is your suggestion.

Mr. HAIGHT.—It is my suggestion.

LORD MERSEY.—It is a very serious suggestion to make, Mr. Haight.

Mr. HAIGHT.—I fully realize it, my Lord.

LORD MERSEY.—It contains a very gross charge against somebody, and ought not to be made except on the very gravest suspicion. At present, you tell me of nothing which raises the least suspicion in my mind. You must get the man.

Mr. HAIGHT.—The next thing I did, my Lord, after he had told me that he had told Mr. Walsh, and at least one other representative man, the story he had told me, I immediately left my room—and probably this transpired in fifteen minutes—I immediately left my room to find Mr. Newcombe and Mr. Johnson. I fully realized the gravity of the situation. I did not consider it proper that a man should go on the stand, making a charge of that kind, with any atmosphere surrounding him which would inevitably surround him if he was examined by a partisan attorney representing one of the steamers as against another. Nor did I consider it wise that I, as counsel for the *Storstad*, should make the definite decision as to whether his charge was grave enough to justify it being even mentioned in open court. I found Mr. Johnson, and I told him in the corridor of the hotel the precise statements that Galway had made, and asked him if he would come to my room, and if he would also communicate with Mr. Newcombe and bring him. I wished them to see the witness, and I wished them themselves to ask him questions in order that the responsibility of making the statement I am now making should not rest solely upon my shoulders. Shortly after, Mr. Johnson and Mr. Newcombe came to my room. They questioned the man. They applied to your Lordship for a subpœna and served the subpœna upon him in my room. They know every word that I know, and they felt that the situation was such as to justify his being subpœnaed.

LORD MERSEY.—Now, if there is anything more that is material to tell me, by all means tell it to me, but what must be done is to get the man here. That is obvious, and the sooner he is brought here and the sooner this story is cleared up, the better.

Mr. HAIGHT.—Yes, my Lord.

Mr. NEWCOMBE.—He was subpœnaed to be here at ten o'clock this morning.

Mr. HAIGHT.—Mr. Newcombe has also subpœnaed the officers of the steamship *Alden*. Your Lordship will remember she was mentioned when the captain was on the stand.

LORD MERSEY.—I don't remember that steamer. I remember the *Lady Evelyn* and another.

Mr. HAIGHT.—The *Alden* was a cargo boat bound up the river about three hours ahead of the *Storstad*. I asked Captain Kendall if he remembered passing her, and he said he did not. We shall have her as well on the question of the steering.

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LORD MERSEY.—Let us bring it down to a point, the charge is that there was something wrong with the steering-gear... is that correct?

Mr. HAIGHT.—Yes, my Lord.

LORD MERSEY.—And this man Galway can tell us what it was?

Mr. HAIGHT.—Yes, my Lord, and he can tell us that three hours before the *Storstad* and the *Empress* collided the *Alden* and the *Empress* very nearly collided up the river.

LORD MERSEY.—That is what he is coming here to tell us.

Mr. HAIGHT.—I have the pilot of the *Alden* and the navigating officer of the *Alden* on the train, to be here at two o'clock.

LORD MERSEY.—Can you, in the meantime, get this gentleman from the Neptune Inn? How far away is the Neptune Inn?

Mr. HAIGHT.—The Neptune Inn, my Lord, is where the C.P.R. members of the crew are generally quartered as guests of the company. He can certainly be here... If your Lordship will adjourn for an hour and a half for lunch...

LORD MERSEY.—How soon can you get him here? In the meantime find him and finish with the witness in the box.

Mr. HAIGHT.—I have no further cross-examination, my Lord.

LORD MERSEY.—Have you any questions to ask, Mr. Newcombe?

Mr. NEWCOMBE.—No, my Lord.

LORD MERSEY.—Mr. Gibsone?

Mr. GIBSONE.—No, my Lord.

LORD MERSEY.—Very well, now, Captain Kendall, will you go back in the box please?

Mr. GIBSONE.—May I state, my Lord, that I personally have no knowledge whatsoever about this man, Galway. I do not know whether the union I represent is the one referred to, but I should like to say that I myself know nothing whatever about it.

LORD MERSEY.—You have heard nothing of this story?

Mr. GIBSONE.—Nothing, my Lord.

Mr. HAIGHT.—You represent the Liverpool Union?

Mr. GIBSONE.—Yes. Of course, I do not contradict anything that Mr. Haight has said.

LORD MERSEY.—Now, Captain Kendall, will you please step into the witness box.

Captain KENDALL.—Yes, my Lord.

LORD MERSEY.—Now, Mr. Haight, will you please cross-examine the Captain with regard to these charges which you say Galway is prepared to substantiate.

Mr. HAIGHT.—Yes, my Lord.

Captain KENDALL, recalled.

2739. Q. Captain Kendall, were you on the bridge all the way from Father Point up to Quebec while the *Empress* was finishing her westbound voyage?—A. Yes, most of the time.

2740. Q. Do you remember passing a two-masted schooner which was apparently light and was bound down the river while you were coming up, about at the Traverse, below Quebec?—A. Yes, I do, many. Not one, many schooners. Not one.

2741. Q. Well, were there many schooners right at the Traverse?—A. Yes, I should say anything between six and ten.

2742. Q. Do you remember clearing one by less than ten feet?—A. No.

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2743. Q. Do you remember at any place, above or below the Traverse, clearing one sailing vessel by about ten feet?—A. No, but in the Traverse it is very narrow, and you always pass vessels very close to. It is impossible to do otherwise.

2744. Q. Do you remember that your steamer at that point took a sheer in the neighbourhood of two points, and that the wheel was put hard over, and she just did come over in time to avoid hitting something?—A. No, never.

2745. Q. Have you ever known of an occasion when your steamer has steered badly to the extent of the wheel having to be put hard over to counteract an ordinary sheer?—A. No, never.

2746. Q. Well, is it your testimony that as a matter of fact it never has occurred that the *Empress* sheers badly?—A. No, never.

2747. Q. It is not possible then that while you were bound down the river, and another man up, that your steamer could sheer so that she first shut out the port light and showed the starboard and then swung back and shut out the starboard and showed the port?—A. Not through any mechanism of the ship.

2748. Q. Well, would your boat under any condition which would be found in the river, about three hours before you reached Father Point, sheer to that extent so as to shut one light out and then the other of the vessel coming up the river?—A. No.

2749. Q. Now, Captain, were you on the bridge continuously for the four or five hours preceding your arrival at Father Point?—A. I was on the bridge practically all the time from Quebec.

2750. Q. I want to know whether you were on the bridge absolutely all the time during the five hours preceding your arrival at Father Point?—A. Yes, except to go into my room for a cup of coffee.

2751. Q. That would not be long enough for a vessel to pass?—A. Five minutes.

2752. Q. When you went in to get your cup of coffee, was there any steamer close at hand?—A. That I can't say.

2753. Q. You wouldn't leave your bridge with a vessel within half a mile of you?—A. No, it was a clear night and we could see a long way.

2754. Q. Do you remember when you got your cup of coffee?—A. No, I do not.

2755. Q. You have no recollection of passing the steamship *Alden*, a freight boat, a collier, called the *Alden*, between nine and ten o'clock on the night of the accident?—A. No, we pass vessels at night but it is impossible to get their names—not impossible, but they don't Morse much, the majority don't Morse, especially the colliers.

2756. Q. On your way in, after you had left Father Point on the termination of your westbound voyage, did you receive any report about or know that there was any trouble with your steering gear?—A. None whatever.

2757. Q. On the way down on the night in question between ten and twelve o'clock, were you then to the best of your recollection on the bridge?—A. Yes, on the bridge.

2758. Q. Did you receive no information from the officer on watch that your steering gear had stopped working?—A. No, none whatever.

2759. Q. Who were the officers on watch between 10 and 12 o'clock that night?—A. the officers on watch between ten and twelve were Mr. Williams and Mr. Tunstall.

2760. Q. Are they here?—A. No, they are drowned.

2761. Q. Both of them have been lost?—A. Yes.

Mr. ASPINALL.—My Lord, may I ask a question?

LORD MERSEY.—Do you want to ask any questions about this, Mr. Aspinall?

Mr. ASPINALL.—Well, if your Lordship attaches any importance to it I would like to ask some questions.

LORD MERSEY.—At present I do not attach any importance at all to it. Of course I don't know what importance may attach to it until I hear this man Galway. How-

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ever, it is for Mr. Haight to consider whether this other inquiry is to be continued. You may later on ask any questions you may desire.

Is Mr. Walsh here?

Mr. HOLDEN.—Yes, your Lordship.

LORD MERSEY.—Then let Mr. Walsh come forward.

Captain JOHN F. WALSH, Chief Marine Superintendent of the C.P.R., sworn.

LORD MERSEY.—Now, Mr. Haight, will you please ask him whatever questions you please.

By Mr. Haight:

2762. Q. Captain Walsh, you are the Chief Marine Superintendent of the C.P.R.? —A. I am.

2763. Q. And you have been for how long?—A. Eleven years as Marine Superintendent and Chief Marine Superintendent.

2764. Q. Are you aware that on June 12th a letter was written to which your name was attached, addressed to the captain of the *Montreal*, asking him to take J. Galway as supernumerary quartermaster for the passage home?—A. Yes, I remember. I did not give the order as supernumerary quartermaster, but it is usual for us in the Canadian Pacific that when an officer or master or foreman or sailor is sent home we give him passage home wherever there is a chance, and we try to put them on the rank they held on the last ship.

2765. Q. Will you be good enough to look at the letter which I now show you and state by whom your signature was attached?—A. The initials are those of my chief clerk.

2766. Q. Was the letter written by him with your authority?—A. The letter was written on my authority, setting aside a previous instruction given to this man Galway. Galway with many other men, who were of the crew of the ship and was not needed by our people as witnesses, were sent home on the steamer *Corsican* and one other ship. There were two steamers that took a lot of the men home. Galway was one of the men ordered home. I understood he was not needed any more than the other men who were sent away, and I gave orders that he should go with the others. Later on, Galway turned up and was asked why he had not gone, and he told me his laundry had not arrived in time, so that he did not embark.

2767. Q. Now, Captain Walsh, why was he ordered home?—A. Well, in conjunction with all the others who were not needed, who formed the larger body of the ship's crew, he was ordered home.

LORD MERSEY.—Well, let us get to the point—did Galway ever make any complaint to you?—A. Galway came to me, my Lord, and said he didn't want to go home, and I asked him why, and he said because his laundry had not arrived in time.

2768. Q. Did he make any complaint about the steering gear?—A. He said that he wanted to make some statement about the steering gear, and I said if he had any statement to make he should make it to the solicitors, and I——

By Mr. Haight:

2769. Q. Did he specifically tell you the steering gear had broken down during his watch on the night of the catastrophe?—A. He did not, not specifically, but he told me, my Lord, that he had a complaint to lodge.

2770. Q. Did you ask him what it was?—A. I asked him, and he said that he had a complaint to lodge *re* the steering gear. He said he didn't think the steering gear acted properly, and the conversation between him and I was this: I said:

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'You were on watch between 10 and 12,' and he said, 'yes, I was on the watch between 10 and 12,' and I said: 'You were in narrow water between 10 and 12. . . . you say she was jammed for how long?' And he said she was jammed for five minutes, and I said 'Really, five minutes in a 300-foot channel, or perhaps double that or treble that, your ship would be ashore. . . . do you know how far a ship would go in five minutes?' And then I told him how far a ship would go in five minutes at a speed of 17 and a half knots. After that I understood he felt he hadn't anything more to say. And I was surprised to see him afterwards. He then said he didn't want to go home, but he wanted to make some statement to someone else, and I said: 'You are at liberty to make what statement you like to whom you like. . . we can't force you and we won't force you to go if you like to remain.' And ever since we treated him as a guest of the Canadian Pacific Railway in the same way as we have treated every member of the crew and every passenger that was on the ship while it was lost.

2771. Q. Is he being kept at present at the Neptune Inn at your expense?—A. My Lord, he turned up the night before last and came to see me at the Chateau Frontenac, and I said 'What, have you come over? Why have you come?' And he said that he didn't know why he had come and then a few minutes later the chief steward of the late *Empress* came and said: 'This man tells me he wants you to put him up.' And I said, 'Of course, let him go down to the Neptune Inn as a guest of the company, in the same way as every other man belonging to the ship has been treated.'

2772. Q. This was the night before last?—A. Yes, he came to me at the Chateau Frontenac; he had just turned up, having apparently been in Montreal all the time, and he told the chief steward to tell me he had no lodgings, and I gave instructions at once that he was to be put up at the Neptune Inn in the same way as all the others.

LORD MERSEY.—Well, Mr. Haight, now it appears he came to this gentleman the night before last, and all the consolation he got from him was lodgings at the Neptune Inn, and he came to you last night. . . . isn't it last night that he came to you?

MR. HAIGHT.—Yes, my lord.

LORD MERSEY.—And he didn't get anything from you at all?

MR. HAIGHT.—No, my Lord.

2773. Q. Captain Walsh, did you know that the man was told to take the steamer that leaves this afternoon at four o'clock?—A. No. I have no knowledge of that, but I told him he was at liberty to go home by any other ship, that as far as we were concerned we didn't need him as a witness, that is all.

2774. Q. Did you, when you ordered or instructed him to go back on the *Alsatian*, do so with the understanding that there was nothing in his complaint about the steering gear, and that he knew absolutely nothing about the collision?—A. There was no individualism *re* him, but in company with others he was to go home on the *Alsatian*, and I had no knowledge of his existence until after the ship had sailed and he came to me and told me he had missed his laundry.

By Lord Mersey:

2775. Q. Did you know anything of this complaint of his about the steering gear until after you had arranged for him to go home by the steamer you have mentioned?—A. Not, my Lord, until after the *Alsatian* had sailed. He came to me after she had sailed, and I thought then that he was on his way to Liverpool.

By Mr. Haight:

2776. Q. But after the *Alsatian* had sailed he comes in and tells you this story, and you then give him a letter addressed to Captain Griffiths, instructing Captain Griffiths to take him over on the *Montreal* as supernumerary quartermaster?—A. When he came, I gave him the option. . . .

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2777. Q. Oh, yes, I know, please Captain Walsh . . . is it not true that you gave him a letter addressed to Captain Griffiths after he had made the complaint about the steering gear?—A. Yes, it is true.

2778. Did you then know the man had any information outside of the knowledge he claimed to have regarding the steering gear?—A. Yes, he explained he had a fault to find.

2779. Q. But apart from that, did you know he was on deck or asleep or where he was. . . had you made any inquiries?—A. All I had knowledge of was that he didn't go to his boat the same as the other men. Instead of rushing to his boat the same as the other men did, he went away to reach his room to get his life belt, when his duty was to rush to his boat. He was the one man that failed.

2780. Q. Did you hear that he had rushed to his room to waken up his mates?—

LORD MERSEY.—Is that part of the story he told you, Mr. Haight?

Mr. HAIGHT.—Yes, my Lord.

LORD MERSEY.—He has been telling you other stories?

Mr. HAIGHT.—He said he had been to his room to wake up his mates, and then when he came back the ship was listed so he stayed on the deck.

LORD MERSEY.—I want to ask you a simple question, Captain Walsh, which I wish you to answer:

2781. Q. Is there any truth in the suggestion that by reason of the charge which this man is said to have made against the steamer here, you wished or planned to get him out of the way?—A. Absolutely none, my Lord.

By Mr. Haight:

2782. Q. Did you, when you ordered him to take the *Montreal*, know that he had been on deck before the collision and had knowledge regarding it?—A. If you please, you have asked two questions at once. Will you ask them separately? The latter one I can answer.

2783. Q. Did you know he was on deck before the collision when you first told him to go on the *Alsatian* and subsequently on the *Montreal*?—A. No, I had no real knowledge, and I gave him no order to go on the *Montreal*. He had the option to go if he cared to. I couldn't order him to go; he was a free agent.

2784. Q. When you gave him the letter to Captain Griffiths, did you then know he was on the deck for some little time prior to the collision?—A. No, I had no knowledge.

2785. Q. Will you please look at the clipping from the *Montreal Gazette* of Saturday, June 6th, 1914, which purports to give a description of the collision by quartermaster Galway and a statement from him as to the circumstances surrounding it?—A. —My Lord, with regard to the newspapers—the newspapers have reported me as having said things. . . there are reporters in the room looking at me now whom I have had to go to and tell them they have reported me as saying things that I never said, and in fact anything in any newspaper is to my mind unworthy of any attention at all.

LORD MERSEY.—That is rather sweeping?—A. As far as I am concerned, my Lord, that is the experience I have had.

LORD MERSEY.—What part of this document do you wish the witness to look at, Mr. Haight?

Mr. HAIGHT.—I only wish to know whether that interview was brought in any way to the notice of the witness.

LORD MERSEY.—What interview?

Mr. HAIGHT.—An interview in the *Montreal 'Gazette'* of June 6.

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2786. Q. Did you ever see or know that such an interview as that had been printed, Captain Walsh?—A. Absolutely no. I have no knowledge of any interview with Galway.

Mr. HAIGHT.—I will ask, my Lord, that the letter signed in Captain Walsh's name be filed as Exhibit No. 8 of the *Storstad*?

LORD MERSEY.—Certainly, Mr. Haight.

Mr. ASPINALL.—I wish to ask this gentleman a few questions.

LORD MERSEY.—Certainly, Mr. Aspinall. In the meantime my colleagues would like to have those two blue prints handed up.

By Mr. Aspinall:

2787. Q. Captain Walsh, you had arranged, I understand, to send this gentleman home, originally?—A. In conjunction with others, yes.

2788. Q. He subsequently mentioned this complaint to you?—A. Yes.

2789. Q. Did you at once give information to that effect to the legal advisers of the Canadian Pacific Railway Company?—A. I did.

2790. Q. And what instructions did they give to you after you had given them that information?—A. The instructions I got was to treat him exactly the same as any other witness.

2791. Q. Was he to be sent home or kept?—A. He was to be kept if he wished to stay.

Mr. HAIGHT.—May I interrupt with another question or two?

Mr. ASPINALL.—Certainly.

By Mr. Haight:

2792. Q. Did you, Captain Walsh, ever hear of a trimmer by the name of Fournier who shipped as Harry White?—A. I know nothing of him. Fournier I never heard of before. White, I have heard of.

2793. Q. Harry White?—A. I don't know him at all as an individual.

2794. Q. Do you know there was a trimmer who signed on under the name of Harry White who joined the ship at Quebec?—A. I have no knowledge, I was not here when the ship sailed.

2795. Q. Have you had any report subsequently to show that?—A. No, I never heard the name before.

LORD MERSEY.—Is this the same man.

Mr. HAIGHT.—This is another man, my Lord, that we have been trying very hard to get.

LORD MERSEY.—And when did you hear of this man?

Mr. HAIGHT.—We heard of Fournier a week or ten days ago.

LORD MERSEY.—What did you hear of him a week or ten days ago?

Mr. HAIGHT.—He was quartered here in Quebec at Blanchard's Hotel, also as a guest of the C.P.R. We heard information, not through the press, but indirectly, that Fournier stated that he was on deck prior to the collision, and that the *Empress* was moving rapidly.

LORD MERSEY.—When did you get this information?

Mr. HAIGHT.—We got that information on, I think, it was Wednesday of last week.

LORD MERSEY.—How many days ago?

Mr. HAIGHT.—About a week ago, my Lord.

LORD MERSEY.—About a week ago you had this information?

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Mr. HAIGHT.—Yes, my Lord, about a week ago.

LORD MERSEY.—And if you thought it of the slightest significance why didn't you put it to the Captain in the box?

Mr. HAIGHT.—I did put it to Mr. Holden and Mr. Newcombe.

LORD MERSEY.—Why did you not put it to the Captain when he was in the witness box?

Mr. HAIGHT.—I did not assume that the Captain knew every trimmer that was standing aft.

LORD MERSEY.—If you thought that was of importance, I think you should have put it to the Captain.

Mr. HAIGHT.—I tried to cross-examine Captain Kendall on the question of the ship's speed. I did not assume that your Lordship would expect me to examine him on every man that is on deck.

LORD MERSEY.—I think that if you are going to suggest what you are suggesting now that it was your duty to do it when the Captain was in the witness box?

Mr. HAIGHT.—I exceedingly regret, my Lord, that I have offended. My information was that the man was standing on the stern of the ship, and I had no idea that Captain Kendall would know whether the man was there or not.

LORD MERSEY.—You should have asked him.

Mr. HAIGHT.—I am sorry I did not, my Lord. The information we got was that Fournier was at Blanchard's Hotel the other night. We went the next morning and were told by the proprietor that he had left the night before with a C.P.R. representative bound for Montreal. I have done my utmost to find him, but have not been able to hear anything about him since I had that information.

LORD MERSEY.—Did you write to anyone that you wanted to have him?

Mr. HAIGHT.—No, my Lord, I made personal application to Mr. Holden.

LORD MERSEY.—Did you write to anyone that there was a man named Fournier that you wanted?

Mr. HAIGHT.—No, my Lord.

LORD MERSEY.—Why not?

Mr. HAIGHT.—We were following trails that we thought would produce him, and I asked Mr. Holden yesterday and I asked Mr. Newcombe the night before last if he would follow up Fournier as we wanted that man. I inquired from Mr. Newcombe what witnesses had been called, and found that he was not among the number. I then made application yesterday to Mr. Holden, and requested him to produce the man.

LORD MERSEY.—Now will you tell us what you were told by some one that Fournier if he were brought here would say?

Mr. HAIGHT.—That he was standing on the deck full aft, felt the engines put full speed astern, that he himself saw that the ship was moving, and moving at a good rate, and the instant after the vessels were in collision.

LORD MERSEY.—Very well, that contradicts the Captain's evidence.

Mr. HAIGHT.—It does, my Lord.

LORD MERSEY.—Did you know of it when the captain was in the witness box?

Mr. HAIGHT.—I did, my Lord.

LORD MERSEY.—Did you conceive it was not your duty to put that to the captain?

Mr. HAIGHT.—My Lord, I conceived it was my duty, after we had examined our own navigating officers and had made some proof as to the fact that the ship was moving—

LORD MERSEY.—Answer my question if you please—do you conceive it is your duty, knowing that fact, to abstain from putting it to the captain?

MR. HAIGHT.—I conceived, my Lord, that my duty to Captain Kendall was to ask him on cross-examination everything that I had any idea he personally knew anything about.

LORD MERSEY.—He was on the bridge the whole time?

MR. HAIGHT.—Precisely, my Lord, and not standing aft on the main deck to find out how many trimmers were on the deck. The question, my Lord, was whether the *Empress* was going ahead or not.

LORD MERSEY.—We will not have any discussion about it. My view of what you ought to have done and yours are very different.

MR. HAIGHT.—Will your Lordship accept my assurance that I regret that my idea differs from your Lordship's?

LORD MERSEY.—Yes, and there are so many things that you rightly conceive are of so little importance that you consider them not necessary to put.

MR. HAIGHT.—And among others is the question to the captain if he knew a trimmer was on the main deck aft.

LORD MERSEY.—Now, Mr. Haight, you were asking a question.

MR. HAIGHT.—Oh, yes—now you had no knowledge, Captain Walsh, whatever, that Fournier was offered a berth on a steamer to Liverpool or on a ship to New Zealand?—A. No knowledge.

2796. Q. No knowledge, Captain Walsh, whatever, of the fact that some representative of the C. P. R. went to Blanchard's hotel in Quebec and took Fournier away from there to Montreal?—A. I have no knowledge.

2797. You have no knowledge of what has become of him?—A. No.

2798. Q. Have you personally any knowledge of D. H. Jones, an ordinary seaman?—A. No knowledge.

2799. Q. He was one of the men who was on duty?—A. I have no personal knowledge at all.

2800. Q. Do you happen to know he was the only man who was on watch?—A. The only Jones.

LORD MERSEY.—Mr. Aspinall, have you any questions for this witness?

MR. ASPINALL.—No, my Lord.

LORD MERSEY.—Now, where is the last engineer that was in the box? I wish to ask him something.

MR. ASPINALL.—That was Mr. Sampson, the chief engineer. We will recall him.

WILLIAM SAMPSON re-called.

By Lord Merséy:

2801. Q. Mr. Sampson, do you know the state of these bunkers on the night of the accident?—A. Yes, my Lord.

2802. Q. Were they full of coal or of cargo?—A. Coal, my Lord.

2803. Q. Then, will you tell me, please, was that coal being used?—A. No, sir, it was being used in the lower bunkers.

2804. Q. You were not using the coal out of those bunkers that were spoken of a little while ago?—A. It may have been falling down; it all falls down from the upper bunkers right to the lower. We work this right throughout the voyage.

2805. Q. You work, of course, from the bottom?—A. Yes.

2806. Q. But are the bunkers all separate bunkers one above another?—A. Yes.

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2807. Q. Well, how does the coal from the upper bunker fall into the lower bunker?—A. There are traps right throughout in the deck.

2808. Q. So that is you use the coal from the lower bunkers, and as you use it the coal from the higher bunkers falls in?—A. That is so, my Lord.

2809. Q. And that is the way you do fire?—A. Always.

2810. Q. And you were using the coal from the lower bunker?—A. That is so, my Lord.

2811. Q. Do you know whether the doors of the two bunkers were open?—A. No, in the 'tween decks those are always kept shut.

2812. Q. Then did I not understand you to say that the coal was falling or might fall from one bunker to another?—A. It falls right throughout, from the 'tween decks, both forward and aft.

2813. Q. And as I understand it there are what you call traps?—A. Yes.

2814. Q. Are there doors to these traps?—A. No, my Lord.

2815. Q. They are open?—A. Always open.

2816. Q. The water-tight doors are the doors which, as I understand it, are some fourteen or fifteen feet above this top sill of the water-tight doors which enclose the engine space?—A. That is so, my Lord. They are the doors through the main bulk-heads.

2817. Q. Could you tell us, do you know, what amount of coal there was on board the *Empress* at that time?

WITNESS.—At the time of the accident, my Lord?

LORD MERSEY.—Yes.

A. I should think about 2,400 tons.

2818. Q. Well now, can you tell us where the coal was in the ship?—A. It was mainly in the lower bunkers. I should say, about 800 to 900 tons in the 'tween-decks. It was all right across the ship.

2819. Q. But these bunkers you are speaking about were longitudinal bunkers?—A. Yes, my Lord, those are on the side of the ship, the permanent bunkers.

2820. Q. How much coal was there in those?—A. I should say about 1,800 tons.

2821. Q. That is you mean there would be about 900 tons on each side of the ship?—A. Yes, my Lord, about that.

2822. Q. Well, where would the other 600 tons be?—A. Across the ship.

2823. Q. In the 'thwartship bunker?—A. Yes, there were two there, my Lord.

2824. Q. Can you tell us whether in the ordinary course the water-tight doors leading into the coal bunkers . . . can you tell us whether in the ordinary course of things these doors would be open or shut?—A. Shut, sir.

2825. They would ordinarily be shut?—A. Always.

MR. HAIGHT.—Before the court adjourns, might I ask if the duty of finding Galway and producing him at two o'clock might be entrusted to Mr. Newcombe of the Canadian Government? I much prefer not to deal with the man, or to be obliged to produce him, but that the representative of the Canadian Government should see that he gets here and should examine him.

MR. NEWCOMBE.—I have no particular desire to examine him. I would prefer that Mr. Haight should examine him.

LORD MERSEY.—Well, gentlemen, I tell you what we will do, subject of course to any objection that may be taken by any one here, we will leave Mr. Newcombe to find the gentleman if he can; we will let Mr. Newcombe put him into the witness box and Mr. Haight shall then examine him.

MR. HAIGHT.—I shall be glad to have Mr. Newcombe also examine him.

LORD MERSEY.—Well, I do not want Mr. Newcombe to examine him; I wish you to examine him.

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Mr. HAIGHT.—Very well, my Lord.

LORD MERSEY.—As I see it is a few minutes after one o'clock we will now rise until two-thirty this afternoon.

The Commission resumed at 2.30 p.m.

Mr. ASPINALL.—My Lord, may I make an explanation. This morning two passengers were called. We have three passengers here available if they are wanted; in view of what your Lordship said I did not propose to call them, but one of the gentlemen whom we have here is anxious to get away this afternoon.

LORD MERSEY.—You had better ask Mr. Haight whether he desires to have him called. If he does, put him in the box.

Mr. ASPINALL.—Mr. Haight has no objection.

LORD MERSEY.—Then you can let him go on. Mr. Haight, you want him called?

Mr. HAIGHT.—My Lord, I have no inclination of any kind about it; I have not heard his name.

LORD MERSEY.—Mr. Aspinall says that he has some passengers here and that one of them is anxious to get away. He wants to know whether you would like to put him in the box?

Mr. HAIGHT.—I understood Mr. Aspinall to ask me if I had any objection to his going into the box now.

LORD MERSEY.—Mr. Aspinall does not want to put him in the box; I do not want him to go into the box.

Mr. HAIGHT.—I have no reason for calling him; I have no reason to object to his departure.

LORD MERSEY.—Then let him go.

Mr. HAIGHT.—Quartermaster Galway is now in attendance.

LORD MERSEY.—Very well, let him go into the box.

JAMES FRANCIS GALWAY, quartermaster, *Empress of Ireland*, sworn.

Examined by Mr. Haight:

2826. Q. Were you one of the quartermasters on the *Empress of Ireland* on the night of the collision with the *Storstad*?—A. I was, sir.

2827. Q. When did you ship on the *Empress*?—A. I could not say the date exactly.

2828. Q. How many voyages had you made on her?—A. Two trips.

2829. Q. You shipped in Liverpool?—A. Liverpool.

2830. Q. Made the trip over to Quebec?—A. That is right.

2831. Q. Then went back?—A. Went back.

2832. Q. Did you come then to Quebec on the second round voyage?—A. Yes.

2833. Q. And you remained on board as quartermaster from the time she left Quebec until the accident?—A. That is so, sir.

2834. Q. You were acting on these three crossings as one of the four quartermasters of the steamer?—A. That is so, sir.

2835. Q. How were the watches arranged? How many quartermasters were on duty each watch?—A. Two.

2836. Q. How long was each watch?—A. Four hours, sir.

2837. Q. How many of the four hours were you actually at the wheel?—A. Two hours.

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2838. Q. That is, you stood by for two hours and you steered for two hours in a watch of four?—A. That is right, sir.

2839. Q. Were the watches separated so that you and another man always kept the same watch?—A. Yes, sir.

2840. Q. Who was the man on watch with you?—A. His name is Gatcher.

2841. Q. He survived?—A. Yes, sir.

2842. Q. How long have you been going to sea, Mr. Galway?—A. Six years, sir.

2843. Q. Where do you live?—A. Kensington, Liverpool, sir.

2844. Q. How long have you been acting as quartermaster?—A. Three and a half years, sir.

2845. Q. On what different lines have you been acting as quartermaster?—A. Allan, White Star, C.P.R., Harrison Line.

2846. Q. Will you just name a few of the steamers of the different lines you have been on, White Star, Allan and Harrison?—A. *Virginian* of Allan Line, *Teutonic* of the White Star Line and *Craftsman* of the Harrison Line. That is all I know.

2847. Q. Which of the C.P.R.?—A. The *Empress of Ireland*, sir.

2848. Q. Did you have any experience in sailing vessels before you went to sea?—A. Yes, sir.

2849. Q. How long?—A. About three years.

2850. Q. Did you come to the Frontenac last night and ask to speak to me?—A. Yes, I did, sir.

2851. Will you please say who it was that advised you to come to see me?—A. The delegate of the union.

2852. Q. Do you know his name?—A. I do not, sir.

2853. Q. What union is it?—A. Our union, sir.

2854. What is your union?—A. Seamen's Union, sir.

2855. Q. Is it an American or an English union?—A. The American union is affiliated with the British Seamen's Union.

2856. Q. Where did you meet the delegate?—A. At the hotel, sir, Neptune Hotel.

2857. Q. When did you meet him?—A. Last night, sir.

2858. Q. Did you tell him before you—

LORD MERSEY.—No, you must not ask that. If Mr. Aspinall or anybody who cross-examines this witness chooses to ask these questions, he can, but you must not ask him; you cannot cross-examine this witness.

By Mr. Haight:

2859. Q. After you had discussed with me the matter which you came to tell me about, did you subsequently discuss it with Mr. Johnston and Mr. Newcombe?—A. That is so, sir.

2860. Q. Will you please repeat, Galway, as well as you can, the various statements that you made to me regarding the operation of the steering gear of the *Empress of Ireland* while you were acting as her quartermaster?

LORD MERSEY.—Mr. Haight, that won't do. You must not ask him to repeat what he said to you, but you may ask him what he has to tell us of his own knowledge about the steering.

Mr. HAIGHT.—Very well, my Lord. (To witness). After you joined the *Empress of Ireland* as quartermaster will you please tell us whether or not you at any time had any trouble with her steering gear?—A. Yes, I did, sir.

2861. Q. Will you be good enough to tell me the first occasion on which trouble developed?—A. Going up the river St. Lawrence in the place called Traverse.

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By Lord Mersey:

2862. Q. What is the Traverse?—A. It is a narrow passage below Quebec; I could not tell how many miles.

2863. Q. A narrow passage in the river?—A. Below Quebec, sir.

By Mr. Haight:

2864. Q. What trouble did you have at that time?—A. I found it almost impossible to manage the vessel.

2865. Q. How did she behave?—A. She behaved extraordinarily. When you give her the helm she wouldn't answer it in time.

2866. Q. How much did she sheer off her course on that particular occasion?—A. What I say is about three points.

2869. Q. How was your wheel when she began to sheer?—A. To port, sir.

2870. Q. How far over?—A. 23 degrees.

2871. Q. Which way did she sheer?—A. She went to starboard, sir.

2872. Q. With your wheel over to port, which way ought she to go?—A. To port your helm is to put her to starboard; her head goes to starboard.

2873. Q. When you put your wheel to port, you expect her to swing to starboard?—A. I do, sir.

2874. Q. On that occasion, when you put your wheel to port, she did go to starboard?

2875. A. She did go to starboard.

2876. Q. What did you do when she began to sheer to starboard?—A. What did I do, sir?

2877. Q. Yes, about your wheel?—A. Well, sir, I had had the wheel over, sir.

2878. Q. You put the wheel over which way?—A. I put it over to starboard.

2879. Q. How far did you put it to starboard to correct the sheer?—A. To correct her, sir? About 23°.

LORD MERSEY.—I think you are rather at sea at present. You are not doing him justice, you know.

By Mr. Haight:

2880. Q. Galway, just tell us in your own words how your vessel swung, one way or the other, and what you did to correct the swing, if you did anything?—A. It was impossible to correct the swing. She would swing either ways, from one side to the other.

By Lord Mersey:

2881. Q. Am I to understand by this that she was turning to port or to starboard?—A. Yes.

2882. Q. At her own sweet will?—A. That is right, sir.

2883. Q. How often did she do this?—A. When we was going through the Traverse.

2884. Q. Yes, but how often did she swing from port to starboard and back again from starboard to port?—A. It has been so on several occasions; I do not know the exact date, but I do know that she has done it, sir.

2885. Q. I am talking about this particular date, when she was in the Traverse?—A. How often did she do it, sir?

2886. Q. Yes.—A. Once that I know of.

By Mr. Haight:

2887. Q. On that one occasion, when she was swinging from one side to the other, how many times did she swing first to starboard and then to port?—A. Once that I know of, sir.

2888. Q. Was there any other vessel in the Traverse at the time?—A. There was.
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2889. Q. Was your steamer sheering towards or away from her?—A. Sheering towards her.

2890. Q. What did you do to try to correct that sheer?—A. The pilot gave an order.

2891. Q. What order?—A. To port the helm, sir.

2892. Q. What did you do?—A. Put the wheel to starboard; she then kept going on towards the schooner.

2893. Q. When you put your wheel to starboard, was she sheering opposite to your wheel?—A. Opposite, all the time.

2894. LORD MERSEY.—I don't understand that. When you put your wheel to starboard did she go to starboard?—A. She went to port, sir.

2895. Q. I should think that that is not opposite but what she ought to have done. That is what she ought to have done?—A. Yes, sir.

2896. Q. And she did it?—A. Yes, sir.

By Chief Justice McLeod:

2897. Q. If you put your wheel to starboard she ought to go to port?—A. That is right, sir.

By Lord Mersey:

2898. Q. Did she do it?—A. She done it for a time and then she came back again.

LORD MERSEY.—Then she changed her mind.

By Chief Justice McLeod:

2899. Q. Do I understand that when you put your wheel to starboard she didn't steer to port; that whilst you had your wheel to starboard she turned to starboard?—A. Yes.

By Mr. Haight:

2900. Q. When you received the order, Galway, to starboard your wheel, which way did you turn it?—A. To port, sir.

2901. Q. Will you indicate whether the top spoke moved to the right or to the left?—A. Starboard is to put it to the left hand side.

2902. Q. Take the top spoke of your wheel. The pilot says: Starboard; which way does that spoke move, right or left?—A. To the left.

LORD MERSEY.—We know these things, you know.

By Mr. Haight:

2903. Q. He is exactly contradicting my idea. When the order is given: Starboard your wheel, on the *Empress of Ireland*, the top spoke moves which way?—A. To port, sir.

2904. Q. And the head swings which way, if she answers her helm?—A. The head swings, sir?

2905. Q. The stem of the steamer, the bow.—A. To starboard, sir. What is it, starboard?

LORD MERSEY.—Now, Mr. Haight, will you tell him what it is you want him to say.

By Mr. Haight:

2906. Q. I want to know, Galway, whether, when you saw the schooner, she was sheering to starboard or to port?—A. She was sheering to port, sir.

2907. Q. And on which side was the schooner?—A. On the port side, sir.

2908. Q. If you wanted to bring your bow away from the schooner and over to the starboard, what was the proper order for the pilot to give you?—A. Port the helm, sir.

2909. Q. Did he give you the order to port?—A. Yes.

2910. Q. Was the order to port obeyed by you?—A. Yes, sir.

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2911. Q. How far did you put the wheel over to port?—A. About 15°, sir.

2912. Q. Did it have any effect upon the steamer's sheer?—A. It did for a time, sir.

By Lord Mersey:

2913. Q. She went to starboard for a time?—A. Yes.

2914. Q. That is to say, she did what she ought to do?—A. Yes, and then she took a sheer back.

2915. Q. Then she took it into her head to change?—A. That is so.

By Mr. Haight:

2916. Q. And when she changed and again sheered towards the schooner, how many points did she sheer?—A. About three points, sir.

2917. Q. And by how much margin did you miss the schooner?—A. By about six degrees, sir, of the compass.

2918. Q. Can you tell how many feet of clear water there was, approximately, between you and the schooner when you cleared it?—A. About 40 feet I would say, sir.

LORD MERSEY.—I thought that according to last night's version it was 10 feet.

MR. HAIGHT.—Last night he said about the length of this room.

LORD MERSEY.—I thought you said to-day before lunch ten feet.

MR. HAIGHT.—I did, my Lord, because, as I understood the witness, we were in a room about 10 or 12 feet in length and I understood him to say last night that they cleared the boat by feet about the length of this room. I may have misunderstood him.

LORD MERSEY.—Now, that appears to be wrong; the distance appears to be 40 feet.

MR. HAIGHT.—It appears to be wrong.

THE WITNESS.—That is what I said, 40 feet.

By Sir Adolphe Routhier:

2919. Q. Does your wheel move the same direction as the helm?—A. It ought to, sir.

By Mr. Haight:

2920. Q. What was the next occasion, Galway, upon which you had trouble with the steering gear of the *Empress*?—A. From 10 to 12.

2921. Q. On what night?—A. On the night before the collision. I was on watch from 8 to 12, sir.

By Lord Mersey:

2922. Q. That is going down the river?—A. Going down the river.

2923. Q. What happened then?—A. The steering gear; I put it over to port and it jammed for a matter of a few minutes.

2924. Q. What happened then; did you unjam it?—A. It remained there, sir.

2925. Q. For a few minutes?—A. Yes.

2926. Q. What happened then?—A. It began to work itself again then, sir.

2927. Q. So it changed its mind again?—A. That is right.

2928. Q. Without any encouragement from you?—A. The encouragement, I had to pull it.

2929. Q. When you pulled it it behaved properly?—A. Yes, sir.

2930. Q. Is that all that happened going down the river?—A. That is all I know, sir.

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By Mr. Haight:

2931. Q. How many minutes was it that your wheel remained jammed?—A. It was about, I should think—I cannot say for certain; I say about 3 minutes.

2931½. Q. During that time were you able to steer the boat?—A. I was not, sir.

2932. Q. Did you report the fact to the officer on watch?—A. I did, sir.

2933. Q. Who was the officer?—A. Mr. Williams.

By Lord Mersey:

2934. Q. Is Mr. Williams alive?—A. He is not, sir.

2935. Q. Did you report it to anybody who is alive?—A. Well, sir, not that I know of.

2936. Q. Did you report it to the Captain?—A. I did not, sir.

2937. Q. Did you report it to the pilot?—A. The pilot knew about it, sir.

2938. Q. Did you mention it to him?—A. Yes, sir.

2939. Q. That pilot is alive, is he?—A. Yes, sir.

By Mr. Haight:

2940. Q. Do you remember the name of the pilot, Mr. Galway?—A. His name is Bernier.

2941. Q. Who was on the bridge at the time your steering gear jammed?—A. Second officer and pilot.

By Lord Mersey:

2942. Q. What was the second officer's name?—A. Mr. Williams, sir.

By Mr. Haight:

2943. Q. Nobody else there?—A. No one else that I know of.

2944. Q. Do you happen to know whether Mr. Williams reported the accident to the Captain?—A. I couldn't tell you that, sir, it was his place to do so, not mine.

2945. Q. Did you see the Captain on the bridge at that particular time?—A. I did not, sir.

2946. Q. Now what was done, do you know, to prevent serious trouble when you lost control so far as the rudder went?—A. I do not know.

2947. Q. Did you hear the telegraph ring?—A. The telegraph rang, yes sir.

2948. Q. Have you any idea what order was given on the telegraph when you reported?

By Lord Mersey:

2949. Q. Do you know? We do not want your ideas; do you know what order was given?—A. Slow, I believe, sir.

2950. Q. Do you know it? Did you hear it?—A. I saw the telegraph being rung but I cannot see right from the wheelhouse to the bridge, sir.

By Mr. Haight:

2951. Q. Some order was given?—A. That is so, sir.

2952. Q. When was that order given with reference to your report to Mr. Williams that your wheel was not working?—A. About 20 minutes to 11.

2953. Q. You reported to Mr. Williams that your wheel was out of order?—A. I did.

2954. Q. And how soon after that report did you hear the telegraph ring?—A. About two minutes later, I should say.

2955. Q. Did you feel any difference in the vibration of the boat or could you form any idea at all?—A. Yes, I did.

2956. Q. Well, what difference did you notice in the vibration of the vessel?—A. I noticed she was slowed down.

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2957. Q. Did Mr. Williams make any answer to you when you reported that your steering gear was out of order?—A. I told him if the steering gear was not altered a collision was inevitable.

By Lord Mersey:

2958. Q. With what was the collision inevitable?—A. It was about the steering gear.

2959. Q. What were you going to collide with?—A. Nothing at the time, sir.

2960. Q. Then there was nothing to collide with?—A. No, sir, but isn't the main asset of any ship the steering gear?—

2961. Q. You are not going to ask me questions.—A. No, sir.

2962. Q. Are you going to tell us that you said to Williams: If this steering gear is not altered we shall have a collision, when there was no vessel in sight with which you could collide?—A. That is so.

By Mr. Haight:

2963. Q. What reply did Mr. Williams make, Galway, to your report that the gear was out of order?—A. He said it would come all right soon.

2964. Q. Did you personally have any other trouble with the steering gear while you were on the *Empress*?—A. On my last trip going down the Liverpool river.

2965. Q. What happened then?—A. It was difficult to manage her.

By Lord Mersey:

2966. Q. You made a statement last night, didn't you, to this gentleman who is examining you? Didn't you have a talk with that gentleman last night?—A. That is so, sir.

2967. Q. In the hotel?—A. That is right, sir.

2968. Q. Did you tell him about this difficulty in the River Mersey?—A. I think so, sir.

2969. Q. Now then, you can tell us what it was.—A. Well, sir, when the—

2970. Q. Were you at the wheel?—A. Yes. When the wheel was put to starboard, she would hardly move, sir.

2971. Q. Hard to starboard?—A. Twenty-five degrees, sir.

2972. Q. And then she did not move?—A. She didn't move.

2973. Q. Did that happen more than once?—A. It happened on several occasions.

2974. Q. Did it happen more than once in the Mersey on that particular trip?—A. Once, sir.

2975. Q. Did you report that to anybody?—A. I did, sir.

2976. Q. To whom?—A. To the second mate.

2977. Q. What is his name?—A. Mr. Williams, sir.

2978. Q. That is the man who is still dead?—A. Yes, that is right.

2979. Q. Now, was there any other occasion when you noticed this steering gear out of order?—A. Was there any other occasion?

2980. Q. Yes.—A. Not that I know of.

2981. Q. I think you said there were several occasions?—A. Well, I have told you there were several occasions.

2982. Q. Oh, well, you have told us all, have you?—A. Yes.

By Mr. Haight:

2983. Q. When you went off duty after 12 o'clock on the night of the collision, did you make any report to the quartermaster who relieved you?—A. I says: Look out, she is steering badly.

2984. Q. Who was the quartermaster who relieved you?—A. Murphy.

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2985. Q. Murphy is one of the survivors?—A. That is so.

LORD MERSEY.—Is Murphy here?

Mr. HAIGHT.—Yes, my Lord. (To witness) From your experience with the other steamers on which you have acted as quartermaster, how does the steering gear of the *Empress* compare with the steering gears of the other vessels?—A. It was altogether different.

2986. Q. Was it easier or harder to work?—A. Harder to work.

By Lord Mersey:

2987. Q. Is it the same kind of steering gear?—A. Exactly; telemotor gears.

By Mr. Haight:

2988. Q. From your experience, did the ease with which the *Empress* would swing to her helm compare favourably or unfavourably with the other vessels which you have steered?—A. Unfavourably.

2989. Q. Where were you landed after the collision?—A. I was on the forward deck, sir.

2990. Q. Where did you go ashore?—A. The place we landed at, sir?

2991. Q. Yes.—A. At Rimouski.

2992. Q. Did you go ashore on the *Evelyn*, the *Eureka* or what?—A. *Lady Evelyn*.

2993. Q. Where did you go from Rimouski?—A. We stopped in Rimouski I should say about five hours.

2994. Q. And then where did you go?

LORD MERSEY.—What has this to do with it?

Mr. HAIGHT.—I am only going to follow it up, my Lord, by showing what was somewhat shown this morning.

LORD MERSEY.—You cannot do that; it may be done on cross-examination, but not by you. You can ask him anything you like about the steering gear.

Mr. HAIGHT.—May I, my Lord, show anything as to the suggestions that he leave the country, made by various persons?

LORD MERSEY.—Certainly not; you may on re-examination, if the occasion is afforded you on cross-examination.

By Mr. Haight:

2995. Q. Where were you when the collision occurred, Galway?—A. I was on the forward deck.

2996. Q. How long had you been on the forward deck before the collision happened?—A. About three quarters of an hour.

2997. Q. Did you hear signals blown by the *Empress* before the collision?—A. I did.

2998. Q. What whistles did you hear?—A. I heard one long blast.

2999. How many times?—A. I heard it twice.

3000. Q. And what other whistles did you hear?—A. I heard three short blasts.

3001. Q. How many times?—A. Once.

3002. Q. Captain Kendall has stated, Galway, that he never blew a signal of one whistle? Are you sure that your recollection is clear?—A. I am almost certain, sir.

By Lord Mersey:

3003. Q. What does that mean, that you are almost certain? Who in your opinion is more likely to know, the Captain of the ship, or you?—A. The Captain of the ship, sir.

By Mr. Haight:

3004. Q. And what is your best recollection, Galway?—A. My best recollection is what I said, sir.

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3005. Q. Do you remember fog coming on?—A. I do.

3006. Q. Were you on the deck when the fog came on?—A. I was.

3007. Q. Before the fog set in, had you seen any lights from the *Storstad*?—A. No, I didn't.

By Lord Mersey:

3008. Q. Were you looking for them?—A. I was not, sir; I was not on watch at the time.

By Mr. Haight:

3009. Q. When did you first know of the presence of the *Storstad* in your immediate vicinity?—A. When she was within a hundred feet off.

3010. Q. On which side of you was she then?—A. On the starboard side.

3011. Q. And approximately how was she bearing, if you can tell?—A. I could not tell you the exact bearing.

3012. Q. Was she roughly, on the bow, amidships, or quarter?—A. Oh, she was amidships.

3013. Q. What light did you see?—A. I seen her green starboard light, and half the arc of the foremost headlight.

3014. Q. How far away?—A. One hundred feet I should say.

3015. Q. How long was that before the contact?—A. It was a matter of minutes.

By Lord Mersey:

3016. Q. A matter of minutes?—A. A matter of seconds.

LORD MERSEY.—Be careful.

By Mr. Haight:

3017. Q. Did you feel the jar of the collision?—A. Yes, sir.

3018. Q. Were you thrown off your feet?—A. No, I wasn't.

3019. Q. What was the last you saw of the *Storstad* after the jar of the collision?—A. The last I saw she was a mile and a quarter away on the port beam.

3020. Q. How did the vessels clear, if you remember? Which way did the *Storstad* go immediately after the jar?—A. She seemed to go round the stern of the *Empress*.

LORD MERSEY.—One of my colleagues thinks you ought to have the opportunity of asking this witness what steps if any were taken by the Canadian Pacific Railway officials for the purpose of getting him away so as to prevent him from giving his evidence. Will you ask those questions.

By Mr. Haight:

3021. Q. Yes, my Lord. After you left Rimouski where did you go?—A. To Quebec.

3022. Q. How long did you remain at Quebec?—A. I should think about four days.

3023. Q. Did you during those four days see any representative of the Canadian Pacific Railway?—A. Did I see?

3024. Q. Yes.—A. No, not that I know of.

3025. Q. Where did you go from Quebec?—A. To Montreal, sir.

3026. Q. Did you, in Montreal, see any representative of the Canadian Pacific?—A. Yes, I did.

3027. Q. Whom did you see?—A. I seen Mr. Holden and Mr. Beatty.

3028. Q. Anybody else?—A. Captain Walsh.

3029. Q. Whom did you see first?—A. I spoke to Captain Walsh, sir.

3030. Q. Then next you saw whom?—A. Mr. Beatty.

3031. Q. And third?—A. Mr. Holden.

GALWAY.

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3032. Q. Were there three separate interviews or were Mr. Beatty and Mr. Holden together?—A. Separate, sir.

MR. HAIGHT.—May I, my Lord, properly ask him what statement he made?

LORD MERSEY.—I think now you are at liberty to say anything.

By Mr. Haight:

3033. Q. Will you please state, Galway, the statements you made to Captain Walsh, whom, I understand, you saw first?—A. Well, sir, I told him about the steering gear of the *Empress*.

3034. Q. Say just what you told him?—A. I told him exactly what I have said about the steering gear.

3035. Q. About the steering gear on which occasion?

By Lord Mersey:

3036. Q. On all the occasions? Did you tell him about all the occasions?—A. Yes.

3037. Q. That is to say, the occasion when you were coming up the St. Lawrence?—A. That is so.

3038. Q. The occasion when you were going down the St. Lawrence and the occasion when you were on the River Mersey?—A. I told him of two occasions.

3039. Q. Which two?—A. In the St. Lawrence.

3040. Q. Did you tell him of the occasion in the Mersey?—A. I did not.

3041. Q. Did you tell that to anybody?—A. I did not.

By Mr. Haight:

3042. Q. How soon after you arrived in Montreal did you see Captain Walsh?—A. I think it would be about nine days; that is as far as I can recollect.

3043. Q. You were four days in Quebec? You then went to Montreal?—A. Yes.

3044. Q. You mean you had been in Montreal nine days before you saw Captain Walsh?—A. Yes.

3045. Q. Where did the interview take place?—A. Captain Walsh's office.

3046. Q. What did Captain Walsh say to you when you told him about the trouble with the steering gear going up and coming down?—A. He told me that was a common thing, for the steering gear to be like that. He first of all told me that when the wheel was amidships, when you want to put it hard-a-port, we will say, you want to bring it back again to amidships and then put it over again.

By Lord Mersey:

3047. Q. What else did he say?—A. He said: I see nothing wrong with it. He says: I know all about it.

3048. Q. What else did he say?—A. That is all I know.

3049. Q. Now did you say anything more?—A. Only to Mr. Beatty.

3050. Q. Did you say anything more to Mr. Walsh?—A. No, sir.

3051. Q. Is that all the interview you ever had with Mr. Walsh?—A. Yes.

3052. Q. You never had any other interviews?—A. None whatever.

3053. What interviews had you with Mr. Beatty?—A. I also stated about the steering gear.

3054. Q. You told him the same thing; did you mention the Mersey to him?—A. I did not.

3055. Q. You mentioned only the two instances in the River St. Lawrence?—A. Yes.

3056. Q. What did he say?—A. What Mr. Beatty told me, he says: I understand it. Well, he says, you want to keep your own counsel about these things.

3057. Q. You have got to keep your own counsel about these things?—A. You ought to keep your own counsel about these things.

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3058. Q. What did you say to that?—A. I left the room

3059. Q. Did you see Mr. Beatty again?—A. No.

3060. Q. Never?—A. No.

3061. Q. Now as to Mr. Holden?—A. That was the man who took our evidence first.

3062. Q. Did you tell him about these two incidents in the St. Lawrence?—A. No, sir.

3063. Did you tell him about Liverpool?—A. I did not.

3064. Q. Did you have any conversation about the steering gear?—A. No, sir.

3065. Q. Then there is nothing that took place between you and Mr. Holden that is of consequence in connection with the steering gear?—A. No, sir.

By Mr. Haight:

3066. Q. I understood you to say to His Lordship that Mr. Holden took your evidence first?—A. That is so.

3067. Q. When did he take your evidence?—A. I could not exactly say the date.

3068. Q. Was that in Montreal?—A. In Montreal.

3069. Q. How soon after your arrival?—A. The same day.

3070. Q. The day of your arrival?—A. Yes.

3071. Q. That was before you saw Captain Walsh and Mr. Beatty then?—A. That is so.

By Lord Mersey:

3072. Q. You did not mention the steering gear to him?—A. I was not asked.

3073. Q. Never mind about what you were asked. You were asked to tell what you knew about the matter?—A. Not as regards the steering gear.

3074. Q. But you were asked to tell all you knew about the collision?—A. No, sir.

3075. Q. Were you not asked to tell all you knew?—A. Not exactly all I knew.

3076. Q. Why. Were you told not to tell something?—A. No, I was not.

3077. Q. Very well, you were told to tell everything that was of importance—is that true?—A. As far as I know.

3078. Q. You were expected to tell everything that was of importance?—A. To the company, sir.

3079. Q. Still you did not tell anything about the steering?—A. No, sir.

By Sir Adolphe Routhier:

3080. Q. Except to the company?—A. Yes.

3081. Q. Not to the court?—A. There was no court sitting.

By Mr. Haight:

3082. Q. Were you, Mr. Galway asked specific questions by Mr. Holden?—A. Just as regards the position of the *Storstad*.

LORD MERSEY.—I do not suppose he knows what a specific question is. (To witness.) Were you questioned by Mr. Holden?—A. I was.

By Mr. Haight:

3083. Q. Did you answer all the questions that were put to you?—A. Yes.

3084. Q. Were you asked for any information outside of the particular questions which were put to you?—A. No.

3085. Q. Were there a large number of other men being examined at the same time?—A. No, there was one man—

3086. Q. Immediately before and after you?—A. There was one man—the lookout.

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3087. Q. What was the first suggestion that was made as to your returning to England?—A. The first thing I knew about it was that they gave me a ticket to go home.

3088. Q. On what steamer?—A. The *Empress of Britain*.

3089. Q. How soon was that after the collision?—A. I did not keep a record.

3090. Q. Were you in Montreal or Quebec?—A. In Montreal.

3091. Q. You had seen Captain Walsh and Mr. Beatty?—A. I had.

3092. Q. You did not go on the *Empress of Britain*?—A. No.

By Lord Mersey:

3093. Q. Why not?—A. I thought there were reasons for not doing so.

3094. Q. What were the reasons?—A. Well sir, I had told Capt. Walsh and Mr. Beatty—

3095. Q. It had nothing to do with your laundry? Did you mention your laundry?—A. Yes.

3096. Q. What did you say about your laundry?—A. I told him I was waiting for the laundry.

3097. Q. Did you make that an excuse for not going on the *Empress of Britain*?—A. No.

3098. Q. What did you say about the laundry?—A. I said it was not ready for me to go but I told him—I said that is not the point I am staying back for.

3099. Q. Let me have this conversation. Tell me exactly what you said to him about your laundry.—A. I said that my laundry was not ready.

3100. Q. Why did you say that?—A. Why did I say that?

3101. Q. Yes; you did not say it to him as the explanation why you were not going away?—A. I did not.

3102. Q. Then why? What interest did you suppose he would take in your laundry?—A. Well, sir, the company was looking after the interests of all.

3103. Q. Do you mean they were looking after your laundry.—A. Yes.

3104. Q. Were you complaining that the company had not sent back your laundry?—A. That was so.

3105. Q. And that was the only reason why you mentioned it?—A. That is so.

3106. Q. Are you sure?—A. That is the only reason.

By Mr. Haight:

3107. Q. What was the next steamer you were told you might go home on?—A.——

By Lord Mersey:

3108. Q. You were telling us the reasons why you would not go back by the *Empress of Britain*?—A. Yes.

3109. Q. What were the reasons?—A. Because I wanted to tell Captain Walsh about the steering gear.

3110. Q. But you did tell him about it?—A. Yes I did.

3111. Q. You had told him about it?—A. Yes, I had told him about it.

3112. Q. Did you think you were going to make anything out of it?—A. Not in the least, sir.

By Sir Adolphe Routhier:

3113. Q. Was it the complaint you had made that prevented you from going on board of the *Empress of Britain*?—A. About the steering gear?

3114. Q. Was that the reason?—A. That is so, sir.

By Lord Mersey:

3115. Q. I do not know why that should have kept you back; you had told Captain Walsh.—A. You see, Lord Mersey——

LORD MERSEY.—I will leave it to some one else.

By Sir Adolphe Routhier:

3116. Q. Were you afraid?—A. Of what?

3117. Q. To go on board the *Empress of Britain* on account of the disaster?—A. No, none whatever.

3118. Q. What is the reason?—A. Because I think that the steering gear is the main asset in the saving of lives.

3119. Q. LORD MERSEY.—The main asset. Have you any more questions to ask? Let us get at the incident and finish it. It is an incident that I do not like at all.

Mr. HAIGHT.—Nor I.

By Mr. Haight:

3120. Q. What was the next steamer it was suggested you should take?—A. The *Montreal*.

3121. Q. You received a letter addressed to the Captain of the *Montreal*?—A. That is so.

3122. Q. Which letter you handed me last night?—A. That is so.

3123. Q. Why did you not go on the *Montreal*?—A. I was justified in staying back.

By Lord Mersey:

3124. Q. That is not an answer to the question. Why did you not go on the *Montreal*?—A. My answer is because I was justified in staying back.

3125. Q. How are you justified? You are a free man, and you need not go on the *Montreal* unless you choose, but what was your reason for not going?—A. To stay back to tell what I have already told.

By Mr. Haight:

3126. Q. Did you have any discussion with any representative of the C.P.R. as to why you had not gone on the *Empress of Britain* or why you had not gone on the *Montreal*?—A. Yes, sir.

3127. Q. With whom?—A. Mr. Curtis.

3128. Q. Who is he?—A. He is what I think is Captain Walsh's secretary or writer; I do not know exactly what he is.

3129. Q. Was he the man who gave you a letter addressed to the Captain of the *Montreal*?—A. He was the man who gave it to me.

3130. Q. What did he say?—A. Take this down to Captain Griffiths and sign on as supernumerary quartermaster.

3131. Q. Did he say anything to you about why you had not gone on the *Empress of Britain*?—A. Yes.

3132. Q. What did he say?—A. He says: Why is it you have not gone home by the *Empress of Britain*?

3133. Q. What did you answer?—A. I says: I have my own reasons for that.

By Lord Mersey:

3134. Q. Did you not tell him anything else? Did you talk to him in that mysterious way and say: I have my own reasons?—A. Not that I know.

3135. Q. What did you say?—A. I told him I had evidence.

3136. Q. Speak it out; let us hear what it was. Did he ask you what evidence you had?—A. No.

3137. Q. Then what was said when you said: I have evidence?—A. I told him I desired to see Captain Walsh.

3138. Q. Did you see Captain Walsh?—A. Yes, that was the morning.

3139. Q. Was that the morning that you told Captain Walsh what you have told us here to-day?—A. That is so.

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By Mr. Haight:

3140. After you had failed to go on the *Montreal*, did anybody ask you why you had not gone on her?—A. Yes they did.

3141. Q. Who?—A. Mr. Curtis.

3142. Q. That is the second time he asked you why you had not gone?—A. That is so.

3143. Q. Was any suggestion made that you go on another steamer?—A. No, only this morning I got news to go by the *Calgarian*.

3144. Q. From whom?—A. Very probably Captain Elliott.

By Lord Mersey:

3145. Q. Do not say "probably"; it is something which happened this morning?—A. Yes, sir.

3146. Q. What time?—A. About nine o'clock.

3147. Q. Who was it that told you?—A. It was the office boy that was sent up.

3148. Q. Do you know his name?—A. I do not know.

3149. Q. Did he bring it up in writing?—A. He did not.

3150. Q. What did the office boy say?—A. That I was wanted down at the office.

3151. Q. Did you go to the office?—A. I did.

3152. Q. What did they say to you there?—A. You have got to go home on the *Calgarian*.

3153. Q. When does the *Calgarian* sail?—A. To-day.

3154. Q. Has she sailed?—A. Not that I know of.

3155. Q. Where does she sail—from Quebec?—A. Quebec.

3156. Q. What did you say to that?—A. I refused to go.

3157. Q. Is this the whole story?—A. It is as far as I know.

By Mr. Haight:

3158. Q. You received a subpoena last night?—A. That is so.

By Mr. Newcombe:

3159. Q. Did you read your subpoena?—A.——

LORD MERSEY.—I hope he did not; it would be quite unintelligible if he did.

By Mr. Newcombe:

3160. Q. Were you aware that you were to attend at ten o'clock this morning by the terms of that subpoena?—A.——

By Lord Mersey:

3161. Q. Do you know what a subpoena is?—A. Yes.

3162. Q. What is it?—A. It is a document stating that you are to stop from going home. That is all I know of.

By Mr. Newcombe:

3163. Q. Did you understand that it required you to attend here at ten o'clock this morning?—A. No, I did not.

LORD MERSEY.—Is that the fault of your subpoena?

MR. NEWCOMBE.—It was stated plainly enough in the subpoena. (To witness) I thought you understood that it was a subpoena to attend here this morning at ten o'clock.—A. I did not understand it; I did not understand I should be called.

3164. Q. You did not understand you were expected to be here?—A. I did not understand I should be called.

By Lord Mersey:

3165. Q. By anybody?—A. Not that I know of.

By Mr. Newcombe:

3166. Q. What did you think the purpose of this subpoena was?—A. I thought it was to keep me from going home.

By Mr. Aspinall:

3167. Q. Are you a bit of a sea lawyer?—A. What, sir?

3168. Q. Do you know the phrase "a sea lawyer?"—A. I do.

3169. Q. Do you say you are a sea lawyer?—A. I do not.

3170. Q. When you came ashore, as you tell us, you were seen by Mr. Holden?—A. That is the man.

3171. Q. This is Mr. Holden (indicating), is it not?—A. That is so.

3172. Q. And the incidents connected with this disaster were fresh in your mind?—A. That is so.

3173. Q. And as you have said, you thought the question of steering gear was the main asset in saving life?—A. I did so.

3174. Q. Did you think that any information in regard to this steering gear was of very great importance in this case?—A. I do, sir.

3175. Did you at the time you saw this gentleman?—A. Yes, sir.

3176. Q. You have told us that you never told him a word about it?—A. No, I did not; I was not asked for it.

3177. Q. You were very ready to volunteer it later?—A. No, sir, I was ready to volunteer it then, sir.

By Lord Mersey:

3178. Q. I was ready to volunteer what?—A. To volunteer evidence then.

3179. Q. Why did you not do it then?—A. They shut us up almost immediately.

By Mr. Aspinall:

3180. Q. I have here what purports to be the stenographer's copy of what you told Mr. Holden. I have got from page 277 of this somewhat large volume to page 294 of information that you were giving Mr. Holden?—A. Yes.

3181. Q. Do you think you are right in saying that they shut you up almost at once?—A. Do I think I am right—?

LORD MERSEY.—Listen to the question and answer it.

By Mr. Aspinall:

3182. Q. You suggested to me that these gentlemen who were seeking information from you almost shut you up at once. Do you remember telling us that?—A. Yes.

3183. Q. I am pointing out to you that, if this book is right, I have got from page 277 to page 294 in typewriting the statements that you were making to Mr. Holden in regard to this collision?—A. Yes.

3684. Q. In view of that fact do you still repeat that Mr. Holden was shutting you up?—A. They never told us to give our right evidence.

By Lord Mersey:

3185. Q. What do you say?—A. They never—they never asked—they only asked us to a certain amount.

3186. Q. Did you understand that they wanted you to keep back your evidence?—A. No, sir.

By Mr. Aspinall:

3187. Q. What do you mean when you state: They never told us to give our right evidence?—A. What do I mean?

3188. Q. That is the question.—A. What do I mean, sir?

SESSIONAL PAPER No. 21b

3189. Q. Do you not understand what I am asking you?—A. Yes, I understand, sir.

3190. Q. Well answer it, please.—A. When I told him what he said—he said: Is that all?

By Lord Mersey:

3191. Q. He said: Is that all?—A. Yes.

3192. Q. Did you say: Yes it is?—A. I said: "Yes, it is," at the time.

By Mr. Aspinall:

3193. Q. We are dealing with that time you know?—A. Yes.

3194. Q. Are you really telling the truth?—A. Well, I do not think I would come here to this Court to tell you an untruth.

By Lord Mersey:

3195. Q. Are you telling us the truth?—A. Yes, sir.

By Mr. Aspinall:

3196. Q. You have made certain statements in regard to the whistles that you heard?—A. Yes.

3197. Q. Amongst other things you told Mr. Haight that the *Empress* blew single long blasts and that you heard them. Did you tell Mr. Holden that?—A. I told him that.

3198. Q. Will you swear?—A. Yes.

3199. Q. I have read through this book. We can get, if need be, the stenographer to certify the accuracy of it and I tell you frankly I cannot find the statement. Are you sure that you told Mr. Holden that you heard single long blasts blown on the whistle of the *Empress*?—A. I told him I heard the *Empress* whistle blowing.

By Lord Mersey:

3200. Q. That is not the question?—A. Yes, sir.

By Mr. Aspinall:

3201. Q. Why do you not answer the question?—A. You asked me the question and I said, 'yes, sir.'

LORD MERSEY.—No you did not.

By Mr. Aspinall:

3202. Q. In that connection, let me ask you then when you went to see Mr. Haight last night did you give him the information then in his room that the *Empress* blew single long blasts?—A. Yes, sir.

3203. Q. How came you to give Mr. Haight that information last night?—A. How came I, sir?

3204. Q. I wish you would not repeat what I say. Do you not hear what I say?—A. Yes.

3205. Q. Well then, it is unnecessary to repeat it.—A. I was asked.

3206. Q. By whom?—A. By Mr. Haight.

By Lord Mersey:

3207. Q. What did he ask you?—A. He asked me did I know anything about the blowing of the whistle on the *Empress*?

3208. Q. What did you say?—A. I told him that it had been blowing all the time.

3209. Q. Is that all you told him?—No, sir.

3210. Q. About the whistling. What else did you tell him?—A. About the steering gear.

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3211. Q. No, is that all you told him about the whistling?—A. That is all.

3212. Q. And what you told him about the whistling was that the whistle was going all the time?—A. That I know of.

By Mr. Aspinall:

3214. Q. Did you tell this gentleman that you heard the *Empress* whistle sounding three short blasts twice?—A. Yes.

3214½. Q. That is the fact, is it not?—A. Yes.

3215. Q. Do you remember being asked this question:

“Was your ship sounding her siren all the time, what signal was it?—A. Two blasts.”

Do you remember being asked about the *Empress* blowing two blasts?

“Q. That is a signal meaning—I am still in the water in a fog.—A. Yes, sir.”

3216. Q. And you told that gentleman this? That was within a few days after this accident had happened and everything was fresh in your memory?—A. Yes.

By Lord Mersey:

3217. Q. Was that true?—A. As far as I know, yes, sir.

3218. Q. Is it as true, at all events, as what you have told us to-day?—A. Well, yes, sir.

By Mr. Aspinall:

3219. Q. It is true?—A. It is true.

3220. Q. Having got this important information in regard to the steam steering gear did you at a later date go and see Captain Walsh and Mr. Beatty?—A. I did so, sir.

3221. Q. Did you tell them what you have told us here about the steering?—A. Yes.

3222. Q. Is it not a fact that after you told Captain Walsh and Mr. Beatty about this incident they at once said: Now you have got to stay?—A. After I told them, sir.

3223. Q. That is the question.

By Lord Mersey:

3224. Do not repeat the questions but answer them?—A. I do not think he exactly—

By Mr. Aspinall:

3225. Q. Only tell what you are asked?—A. I do not think you are putting it in what I think the right manner.

3226. Q. Will you put it for me if you think you can put it in the right manner? In what respect am I putting it wrongly?

Chief Justice McLEOD.—Suppose you repeat the question.

By Mr. Aspinall:

3227. Q. After you had seen Captain Walsh and Mr. Beatty and told them you were making complaints about some of the steering gear, were you then told that instead of being sent home you would have to stay?—A. Instead of being home I would have to stay?

3228. Q. That is the question.—A. That is right, sir.

3229. Q. And in consequence of that you have stayed?—A. That is right, sir.

GALWAY.

SESSIONAL PAPER No. 21b

By Lord Mersey:

3230. Q. Did these two gentlemen, representing the Canadian Pacific Railway Company, tell you, after you had told them that there was something wrong with the steering gear: Then you must stay for the inquiry?—A. They did.

By Mr. Aspinall:

3231. Q. The night before last did you pay Captain John Walsh a second visit?—A. The night before last?

3232. Q. Why do you repeat my questions?—A. I think it is only right to do so, sir.

3233. Q. Answer the question.—A. Yes, sir, I did.

3234. Q. What had you got in your mind when you went to see Captain Walsh the second time?—A. I had in my mind to get a room; I had no room at the time.

3235. Q. You wanted something?—A. Yes, sir.

3236. Q. Was it more than a room?—A. Was it more than a room? That is all I wanted, sir.

3237. Q. I am not suggesting that at any time you asked for money.—A. You are as much as suggesting that, sir.

3238. Q. Why did you go to see Captain Walsh to ask for a room? He is a gentleman of some position, is he not?—A. Yes.

3239. Q. Why did you select Captain Walsh for a visit the night before last?—A. Because I was sent down here from the company's head office, and that is the only man that could have done so because when I went to the office at the Chateau Frontenac they told me I would have to see Captain Walsh.

3240. Q. What did Captain Walsh say to you on the second occasion?—A. He told me that I would probably be here a week.

3241. Q. Then the next evening you pay this surprise visit to Mr. Haight?—A. Yes.

3242. Q. What really prompted you to go to Mr. Haight—A. The truth, sir.

3243. Q. You are so anxious that the truth should be brought out that you go to see Mr. Haight?—A. I was advised to do so.

3244. Q. Is your suggestion that Capt. Walsh was doing anything which would result in concealing the truth from the tribunal?—A. Well, going home in the *Calgarian*—that is so.

3245. Q. But this incident about your going home on the *Calgarian* occurred this morning and you saw Mr. Haight yesterday.—A. Last night.

3246. Q. The visit to Mr. Haight occurred before the *Calgarian* incident?—A. Last night I heard of it, but definitely they did not tell me till this morning to get a ticket to go home on the *Calgarian*.

3247. Q. You had heard of it?—A. Yes.

3248. Q. Is your suggestion that Capt. Walsh, having seen you and told you to stay, and having said 'You will be here a week,' has suddenly changed his mind and is seeking to smuggle you out of the country this afternoon? Is that the suggestion?—A. That is the only suggestion I can make.

By Lord Mersey:

3249. Q. Do you believe it? Now come, you know Mr. Walsh—do you believe it?—A. That is the only thing I can suggest.

By Mr. Aspinall:

3250. Q. I pass away from that. I want to ask you on how many occasions have you steered this ship?—A. We are at the wheel all the time at sea on and off.

3251. Q. Extending over a period of how long?—A. Two hours.

GALWAY.

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3252. Q. But how long have you been on this ship?—A. That is the right way to put the question. You did not ask me that before. Two voyages, sir.

3253. Q. You do not seem to like my questions.—A. Well, I would like if you could put them more plain, sir.

3254. Q. You have been two voyages?—A. Yes sir.

3255. Q. And you have been steering the ship on a great number of occasions?—A. Yes sir.

3256. Q. If I understood your evidence aright, it was only on one occasion that the helm had jammed?—A. It jammed once, yes.

3257. Q. It was hard to work on that one occasion?—A. Yes.

3258. Q. On the other occasions when you used the wheel it went over readily enough but the ship for some strange reason, although you had got your wheel over, sheered about?—A. That is so.

3259. Q. That explains all the trouble you have had with the steering of this vessel?—A. Yes.

3260. Q. There is one other matter that perhaps I ought to have asked you about, Mr. Galway. Did you tell Mr. Holden, when you saw him at Montreal, when you were asked if 'the reversing of your engines took the ship's way off' that you thought so? Was your answer, 'I think so.' You have told me this afternoon that you told Mr. Holden that your whistle was twice blown and that it blew three short blasts?—A. Yes.

3261. Q. That is right, is it? And in connection with the reversing of her engines, Mr. Holden asked you the question whether the reversing of the engines took your way off. Do you remember?—A. Yes, that is so.

3262. Q. He said, "Do you think they took her way off?—A. I think so."—A. What I understood him to say was how many minutes did it take the stern way off the ship and I answered 'seven minutes.'

3263. Q. Let me repeat this:

"They stopped the engines and then reversed them and then kept on going astern for a certain length of time?—A. Yes.

"Q. Do you think they took her way off?—A. I think so.

"Q. Did she get any stern way?—A. I do not think so."

Did you tell this gentleman that?—A. Yes.

3264. Q. Is it right; is it correct?—A. I say yes, sir.

By Mr. Haight:

3265. Q. Were you also asked how many minutes you thought it would take going full speed astern to bring the steamer to a dead stop?—A. I was.

3266. Q. What was your answer to that?—A. Seven minutes.

3267. Q. I understood you to say on your cross-examination that after seeing Mr. Beatty and Capt. Walsh they told you that you must stay on this side?—A. That is so.

3268. Q. Both of them told you that at the time of your interview—or which gentleman interviewed you?—A. Yes.

3269. Q. Was that before or after you received the letter addressed to the captain of the *Montreal*?—A. Capt. Walsh told me if you want to go home you can do so, but I have stopped back.

3270. Q. Did Capt. Walsh say that to you before or after he told you you must stay?—A. After.

3271. Q. You said on your cross-examination that you had heard about their wanting you to go home on the *Calgarian* to-day. When did you hear about that?—A. I heard about it last night.

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3272. Q. From whom?—A. From the office lad.

3273. Q. Did you make any statement to me last night on this subject?—A.—

LORD MERSEY.—This is becoming a most curious examination. In all my life I have never heard any counsel ask a witness to repeat the statements that he made to him in private.

Mr. HAIGHT.—I thought that having been cross-examined by the other side as to what he had said—

LORD MERSEY.—It is becoming to my mind, so utterly irregular that I really cannot interfere—you must finish it in your own way.

Mr. HAIGHT.—I do not care to press the question.

LORD MERSEY.—If we were to pursue this to the end we should have you in the witness box and have you cross-examined and that, at all events, I am not going to allow.

Mr. HAIGHT.—It would not be a matter that I would object to. If anybody wished to cross-examine me I would be willing to submit to it.

LORD MERSEY.—Well then, you are a very odd man. (To witness.) Do you say that the steering gear of the *Empress of Ireland* misbehaved on one occasion when you were going up the St. Lawrence and that was an occasion when you were in a narrow channel?—A. Yes.

3274. Q. And was that the occasion when, in consequence of her not answering the wheel, she came within 40 feet of some other vessel?—A. Yes.

3275. Q. Do you know whether in that narrow channel there are any strong currents?—A. Yes, there was.

3276. Q. Did the currents affect the movement of the ship?—A. To a certain extent, sir.

3277. Q. Is the wheel always able at once to counteract the effects of these currents?—A. It is not.

3278. Q. Were you in a channel where these currents are found?—A. I was.

Mr. ASPINALL.—This witness has stated that he told both Murphy and the pilot and they are here.

LORD MERSEY.—Very well, we had better finish it.

JOHN MURPHY, quartermaster, *Empress of Ireland*, recalled.

By Mr. Meredith:

3279. Q. You have been already examined?—A. Yes, sir.

3280. Q. You were quartermaster and you were on duty during what time?—A.
12 to 2.

3281. Q. Tell the Court how that ship steered?—A. The ship steered very good, as good as any ship I have ever been on.

3282. Q. You have been quartermaster how long?—A. Four years and five months.

3283. Q. Were you on any ship before that?—A. Yes, the *Lake Champlain*.

3284. Q. Have you ever had any trouble with her wheel?—A. Never.

3285. Q. You have heard Galway—

LORD MERSEY.—Is not Galway the gentleman who wrote the letter to the newspapers?

Mr. MEREDITH.—Yes, my Lord. My learned friend handed in a document this morning which purports to be an interview between Galway and somebody which I think might be filed.

LORD MERSEY.—I do not want it. I only wanted to know whether he was a literary man or not.

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Mr. MEREDITH.—It depends entirely on one's ideas of literature.

Mr. HAIGHT.—It is an interview printed in a Montreal paper and not a letter addressed to the paper that I have quoted here.

By Mr. Meredith:

3286. Q. Now, Murphy, you heard the last witness... you were in Court?—A. Yes.

3287. Q. You heard him say that he told you something to this effect, to be careful of the ship that she was not steering well... is that true?—A. Never, sir.

LORD MERSEY.—The letter, as I understand it, is not about the steering.

Mr. MEREDITH.—No, my Lord; not as I remember it.

LORD MERSEY.—Mr. Haight, does the letter mention the steering?

Mr. HAIGHT.—There is no letter, my Lord. It is an interview.

Mr. MEREDITH.—It purports to be an interview, my Lord. It is not put in the form of a letter but is supposed to be an interview with Galway.

LORD MERSEY.—Well, gentlemen, I think I know the reporters more or less, and my experience is that reports of interviews are always very full. I am not sure they are always very accurate, but they are always very full. Is there a word about the steering gear in that interview?

Mr. MEREDITH.—I shall leave that to Mr. Haight. I do not think there is.

Mr. HAIGHT.—I think not, my Lord.

LORD MERSEY.—The principal asset is left out.

By Mr. Meredith:

3288. Q. I understood you to say, Murphy, that you relieved this man Galway at the wheel, didn't you?—A. At twelve o'clock, sir.

3289. Q. Did he say anything to you in any way about the bad steering of the ship, or that the wheel was not working properly?—A. Never, sir.

By Mr. Haight:

3290. Q. I understand, Murphy, you have never had any trouble with the steering gear?—A. Never since I have been on the ship.

3291. Q. You found that it worked with absolute promptness whenever you put the wheel one way or another?—A. No, sir, it might be that it does not catch, and what you have to do is put your wheel back amidships and give it the helm, and it will catch on right away.

3292. Q. Sometimes when you first put the wheel over she does not catch on, and then you have to bring her back amidships?—A. That might occur every two years.

3293. Q. It has occurred?—A. Only once since I have been in the ship.

3294. Q. Your sometimes is rather infrequently then?—A. Sir?

3295. Q. Has she ever jammed with you?—A. No, sir, never.

3296. Q. Well, when was the one occasion, Murphy?—A. Two or three years ago, sir, I am not quite sure, but it is a long time ago.

Mr. MEREDITH.—May I ask one question to Pilot Bernier.

ADÉLARD BERNIER, licensed St. Lawrence pilot below Quebec, sworn.

By Mr. Meredith:

3297. Q. Mr. Bernier, you are a licensed pilot below Quebec?—A. Yes.

3298. Q. For how many years have you been in the habit of piloting the *Empress of Ireland*?—A. Seven years.

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3299. Q. And you pilot her in the narrow waters that exist between Quebec and Father Point?—A. Yes, sir.

3300. Q. After that, of course the river broadens out to about 25 miles?—A. Yes, not 25 miles, but below the Traverse eight or nine miles.

3301. Q. But below Father Point it broadens out to about twenty-five miles?—A. Oh, yes.

3302. Q. Now in the narrow waters that you have piloted that boat in have you found her a good steering ship?—A. Well, sometimes we have slowed down to half speed.

3303. Q. Yes?—A. Yes, and she was steering all right then at half speed.

3304. Q. Would you call her a good steering ship, as compared with other ships?—A. Yes, of course she was like other ships, when they were given too much wheel, and not easing it in time, she was taking a sheer.

3305. Q. That is common with other ships?—A. Yes, certainly. It depends a lot on the man at the wheel; she wants to be watched very closely.

3306. Q. You saw this man Galway in the witness box?—A. Yes.

3307. Q. You saw this man Galway in the witness box?—A. Yes.

3308. Q. Just a few minutes ago?—A. Yes.

3309. Q. Would you rather give your evidence in French, Pilot?—A. No, it's all right.

3310. Q. Did he ever make any complaint to you at all?—A. Not at all.

3311. Q. About the steering of the ship or her wheel?—A. No, not at all, sir.

By Mr. Haight:

3312. Q. You stated, Mr. Bernier, that sometimes you have to slow the *Empress* down?—A. Yes, on account of the water. to let the water rise or off shoal water.

3313. Q. If you don't slow her down what does she do?—A. In a narrow channel, at 500 feet, I wouldn't dare to pass her at full speed.

3314. Q. For fear she might sheer into one shore or the other?—A. Yes, certainly.

3315. Q. Now if the man at the wheel does give her a little too much helm one way or the other, do you have to put the wheel hard over to counteract the sheer?—A. Yes, sometimes, because it often happens when they don't watch her closely enough, sometimes they give the wheel, and don't ease it in time, and of course the ship inclines either one way or the other.

3316. Q. How much time were you on the bridge, Pilot, from Quebec to Father Point?

WITNESS.—How much?

3317. Q. Yes, how much time were you on the bridge?—A. All the time. I had my lunch in the wheel-house.

By Sir Adolphe Routhier:

3318. Q. Was the Captain there?—A. Well, not always, not all the time. His room is on the same deck.

By Lord Mersey:

3319. Q. His room is on the same level with the bridge?—A. Yes, he can see through his port forward.

By Mr. Haight:

3320. Q. Between ten and twelve o'clock on the night of the disaster do you remember how much time you were out on the bridge?

The WITNESS.—That I was out?

3321. Q. Yes, do you remember how much time you were out on the bridge?—A. I was on the bridge all the time from the time we left the wharf until she was down there.

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3322. Q. Yes, Mr. Bernier, but I understand you call it being on the bridge when you are in the Captain's house after the wheel. . . . that is also the bridge according to you?—A. That is on the same level as the bridge.

3323. Q. I want to know how much time between ten and twelve were you out in the open air, on the open bridge, forward of the wheel?—A. Well, I was there, walking there, all the time.

3324. Q. All the time from ten to twelve?—A. All the time from the time we left the wharf until the ship was down there.

3325. Q. Specifically, between ten and twelve, you were not in the Captain's room at all?—A. Oh no, I have never been there in the Captain's room. That was not my duty. My duty was to stand by the man at the wheel.

By Lord Mersey:

3326. Q. The question is, did Galway complain to you about the steering gear?—A. No, my Lord, he did not, and if the thing did happen I would have known it right away, because I always watch the tell-tale, to see how the wheel is working.

Q. And he never complained to you?—A. Not at all, my Lord.

By Mr. Haight:

3327. Q. Did the Second Officer or did anybody tell you that the steering gear had jammed?—A. No sir, not at all. And she never jammed either, because if she had jammed for three minutes, as Galway said, we would have known it.

3328. Q. Do you remember the steamship *Alden*—have you ever seen her?—A. Yes.

3329. Q. She is plying up and down the St. Lawrence for the Dominion Coal Company?—A. Yes, I met her anywhere between White Island lightship and White Island.

3330. Q. About what hour was that?—A. I have a chart here, and I can show you just where it was.

3331. Q. No, about what hour?—A. Oh, about quarter to ten or ten o'clock. We passed Cape Salmon at a quarter past nine, and it was about ten minutes to ten or ten o'clock or something like that that we passed the *Alden*.

3332. Q. Did you have any occasion to order your wheel put hard over either one way or another to get by her?—A. No, I had no trouble to meet her either.

3333. Q. Do you stand where you can see the compass?—A. No, the compass is on top.

3334. Q. But you could tell?—A. Certainly by the swinging of the ship.

3335. Q. Or by the land?—A. Certainly, yes.

3336. Q. And from the time you saw the *Alden* until you got by her. . . —A. It took pretty near half an hour. I saw where she was going to cross between Red Island and White Island.

3337. Q. Well from the time the *Alden* was three miles distant, up to the time you passed her, was your vessel going steadily on an even course?—A. Yes, she was steering fine at the time. I suppose she might have sheered a degree or two each side.

3338. Q. Was that a straight reach in the river there?—A. Yes.

3339. Q. In your judgment is it possible that she was sheering enough to shut either light to a man in the position of the *Alden's* bridge?—A. I was showing my green light to the *Alden*.

3340. Q. All the time?—A. Yes, until I was far enough down to port my helm to get clear of him. I didn't port before, because I was too close to White Island reef.

3341. Q. You passed on which side?—A. Port side, red to red.

3342. Q. And how far off were you when you ported and crossed her course to show your red light?—A. She was about half a mile ahead of me. I ported half a point, and we passed about a quarter of a mile of each other.

LORD MERSEY.—What ship are you talking about now, Mr. Height?

BERNIER.

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Mr. HAIGHT.—The steamship *Alden*, my Lord.

LORD MERSEY.—Don't you think we have quite enough to do to deal with this collision?

Mr. HAIGHT.—I have all the witnesses of the *Alden*, and I shall shortly have the pilot of the *Alden*, and they will testify that as they went by the *Empress* that night they thought they were going to be run down.

The WITNESS.—Oh I have a chart here and I can show you where they were.

LORD MERSEY.—I don't know whether we are going to try another case, not exactly another collision case, but another case where there was nearly a collision. If you think it does your case any good go on by all means.

Mr. HAIGHT.—Thank you, my Lord.

3343. Q. Do you always take the *Empress* down?...the *Empresses*?—A. Yes, up and down.

LORD MERSEY.—Now, Mr. Newcombe, where is the witness that you wanted to examine a little while ago?

Mr. NEWCOMBE.—My Lord, there is a Mr. Henderson here, who was a passenger... I understand my learned friend wishes to examine him.

LORD MERSEY.—I understood he did not want to examine him.

Mr. HAIGHT.—My Lord, it is a different passenger now. They are asking about Mr. Henderson now. He is not the witness that I wish to examine.

LORD MERSEY.—Then you want a different passenger?

Mr. HAIGHT.—I would like at some time or other to examine Mr. Henderson, but may I not at some time or other put on the men of the *Alden*. I thought they were going to sail to-morrow morning, and that it was a case of examine them to-day or never, but I find now that that is not so, and I am therefore at your Lordship's direction.

LORD MERSEY.—Well, Quebec is a very fine place, and I have no doubt they will not object to staying until to-morrow morning.

Mr. ASPINALL.—It has been suggested, my Lord, that I did not want Mr. Henderson called, but what I was proposing to do was this, I was going to call two sailors to say what they did with regard to getting out boats and saving lives.

LORD MERSEY.—Well, that is Mr. Gibsone's part of the case. You had better call them.

Mr. ASPINALL.—Then first I would call McEwen.

JOHN McEWEN, able seaman, *Empress of Ireland*, sworn.

By Mr. Aspinall:

3344. Q. McEwen, were you serving as an A.B. on board the *Empress of Ireland*?—A. Yes, sir.

3345. Q. Was it your watch from twelve to four?—A. Yes, sir.

3346. Q. What were you doing at the time of the collision?—A. I was off, bad with two fingers, sir.

3347. Q. What is that?—A. I was off, bad with two fingers.

By Lord Mersey:

3348. Q. You mean you had hurt two fingers?—A. Yes, sir, I had them squashed.

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By Mr. Aspinall:

3349. Q. Do you remember the collision happening?—A. I was just on deck at the time, sir, walking up and down, that was all.

3350. Q. Well now, as soon as the collision happened, what did you do?—A. Well, I went back to my room, sir, and got on my clothes and shouted to some other men that were in their bunks.

3351. Q. You called some of them?—A. Yes, sir, I called some of the men that were in their bunks.

3352. Q. And after that what did you do?—A. I went straight up to my boat.

3353. Q. Which was your boat?—A. No. 9.

3354. Q. No. 9 was your own boat?—A. Yes.

3355. Q. And were you able to get her out?—A. Yes, sir.

3356. Q. And did she float?—A. Yes, sir.

3357. Q. Did she save life?—A. Yes, sir.

3358. Q. Did you get into her?—A. Yes, sir.

3359. Q. Were any passengers put into her before she was put into the water?—A. Yes, sir, one man, a passenger, swung out in her.

3360. Q. And then you lowered her into the water?—A. Yes, sir.

3361. Q. And having got her into the water, did she proceed to save life?—A. Yes, sir.

3362. Q. How many people did she save?—A. I couldn't say how many, but we filled up our boat down to the gunwales.

3363. Q. And what did you do with that boat after she was filled up?—A. We took her to the *Storstad*.

3364. Q. And then did you get rid of the passengers?—A. Yes, sir.

3365. Q. You put them on board the *Storstad*?—A. Yes, sir.

3366. Q. And what did you do then?—A. We went back and picked up more.

3367. Q. And how many more did you pick up about on this occasion . . . did you fill your boat?—A. Pretty near.

3368. Q. And what did you do with them?—A. We went and put them on board another steamer, a steam tug.

3369. Q. And then did you make a third trip?—A. Yes, sir, but we picked up no survivors; only some dead bodies.

3370. Q. And where did you take the dead bodies?—A. To another steam tug.

3371. Q. And then?—A. Then we were told by the second officer to go aboard the tug boat, sir.

By Mr. Gibsone:

3372. Q. Did any of the crew of the *Empress*, who were manning the *Empress'* boats and had brought passengers to the *Storstad*, refuse to go back in the *Empress'* boats to rescue more passengers or members of the crew in the water?—A. No, sir, none that I know of . . . none in my boat.

3373. Q. Yours, I think you said, was No. 9 boat?—A. Yes, sir, No. 9.

3374. Q. And all the crew that originally started off, manning No. 9 boat, went back again?—A. Yes, sir.

3375. Q. And worked there rescuing people?—A. Yes, sir.

By Lord Mersey:

3376. Q. Now just tell me, McEwen, did you hear of any of the *Empress'* men refusing to do what they ought to do?—A. No, sir, I never did.

3377. Q. You heard of none of them refusing to save lives?—A. No, sir, I never heard of one.

3378. Q. Did they do their best?—A. Yes, sir.

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By Mr. Newcombe:

3379. Q. Was your ship going ahead at the time of the collision?—A. No, sir, she was stopped as far as I could see.

Downey, seaman, *Empress of Ireland*, sworn.

By Mr. Aspinall:

3380. Q. Downey, were you serving as an A.B. on board the *Empress of Ireland*?—A. Yes, sir.

3381. Q. Were you off watch at the time of the collision?—A. Yes, sir.

3382. Q. Where were you when the collision happened?—A. In my bunk, sir.

3383. Q. Did you feel the shock?—A. Yes, sir, the shock woke me.

3384. Q. What did you do?—A. Well, the shock woke me, and the next thing I heard was the boatswain's mate shouting for all hands on deck, and I immediately jumped up and followed the boatswain's mate to the boat deck.

3385. Q. Which side of the boat deck did you go to?—A. The starboard side. I went to the port side first, and I could do no good on the port side with the way the boats were, and I went over and asked the boatswain's mate what to do, and he said to see if everything was clear on the starboard side of the boat deck. I did so and got as far forward as No. 1 boat. Then I assisted to lower No. 1 boat, with a man by the name of Fitzpatrick. Fitzpatrick cleared the fall away for me, and I helped lower the boat down, and then I went further aft and assisted in getting another boat out.

3386. Q. Which number?—A. I can't say the number of the boat but young Bruin might be able to tell.

3387. Q. Was Bruin there?—A. Yes.

3388. Q. I suppose that was on the starboard side too?—A. Yes, one abaft the other.

3389. Q. Did you get that boat into the water?—A. We got it out, sir, and I got farther aft and left it in the hands of Bruin, and whether he lowered it or not I can't say. There was a bit of confusion around for a bit, and I tried to keep a bit of a rush back, and I got further back, and then I had to go in the water, sir. And I was picked up by the boat the first officer was in. When I got into the boat I found the first officer was in it.

3390. Q. Do you know the number?—A. No, sir, I don't know the number, because I was pretty bad after being picked up. I think myself I was about four or five minutes in the water.

3391. Q. Were there any passengers in her?—A. Yes, sir, there was a lady passenger. She was the first to leave the boat to go aboard the Norwegian ship.

3392. Q. Did you save many passengers?—A. I didn't help any. I was one of the last in the boat myself.

3393. Q. You were rather overcome?—A. I was overcome. Yes, I couldn't even go back to help McEwen in the boat.

3394. Q. You were exhausted?—A. Yes.

3395. Q. And then the boat went to the *Storstad*?—A. Yes, she went to the *Storstad*, and then she left the ship again.

3396. Q. And you didn't go back?—A. No, sir, I didn't go back. I was cramped with being a certain length of time in the water.

3397. Q. But did the boat go back?—A. Yes, in charge of the first officer.

3398. Q. You saw it go away?—A. Yes, I saw him leave the ship. I was on the *Storstad's* deck.

DOWNEY.

By Mr. Haight:

3399. Q. When you were picked up, Downey, you were not able to pull an oar or do anything?—A. I was not. I tried to, but I couldn't get an oar out with the crowd in the boat.

3400. Q. You went with the other people on board the *Storstad*, and some one else rowed the boat?—A. Yes, sir.

3401. Q. When you got to number 1 boat did you and the man who was helping you do everything that was done to lower it?—A. I was at the pin, sir, lowering the fall with the assistance of another man that is here now, clearing the fall for me.

3402. Q. Well, was any one at that boat when you got there?—A. The boat was swung out when I got there, and I went to the fall to do the best I could, and I managed to get the best part of it.

By Mr. Gibsone:

3403. Q. None of the *Empress* men, as far as you know, who had been manning the *Empress* boats and had brought passengers to the *Storstad*, none of those men refused to go back as far as you know?—A. No, not as far as I know. I didn't go—I was not asked to go and didn't go, because I told the man that was in charge that I was not able to go. I was cramped, sir.

3404. Q. McEwan went back?—A. Yes, sir, McEwan went back in the boat with the first officer in charge.

3405. Q. And the other members of the *Empress'* crew that were manning the boats went back?—A. Yes, sir, they made several trips.

MR. ASPINALL.—My Lord, I have other seamen here, but I do not propose to call them.

LORD MERSEY.—Mr. Gibsone, you have heard what the witnesses have said, so far, I mean the seamen. I don't know whether in the face of their evidence you desire to persist with the charge that some of the men in a cowardly manner refused to go back to the rescue of the drowning people.

MR. GIBSON.—I made no such charge, my Lord, on the contrary my intention and my belief is, and my instructions are, that all the men acted in a courageous and proper manner throughout, and all the questions I have been putting to the witnesses have been with the intention of bringing out those facts. The suggestion, if I may put it that way, that some of the *Empress'* men did refuse to go back and were derelict in their duty, I think came from the lips of Mr. Tuftenes, the chief officer of the *Storstad*, and also partly from the captain of the *Storstad*. I venture to say that I think the statements have been disposed of by the witnesses that have been heard since.

LORD MERSEY.—Well, Mr. Haight, do you suggest that the members of the crew of the *Empress* behaved badly?

MR. HAIGHT.—Not at all, my Lord, I only wanted to show, in answer to the charges that have been made against us of deliberately allowing people to drown, that we not only manned our own boats, but also manned those of the *Empress*.

LORD MERSEY.—Well, all I can say is that if these charges have been made here I have not realized the fact. It has never entered into my head to suspect that anybody in the *Storstad* behaved badly towards the people that were drowning. On the contrary, it seems to me they behaved very well.

MR. HAIGHT.—The charge was made principally through the press, while your Lordship was on the ocean, but while Captain Kendall was on the stand, he said that without reason or excuse we not only backed away but we backed a mile away. I do not for a moment suggest that the conduct of the officers or men of the *Empress* should be characterized as cowardly or otherwise, but I only want the court to know that we not only manned our own boats, but also supplied a full crew to one *Empress*

DOWNEY.

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boat and part of a crew to one other. It may well be that every man whose place we filled was quite exhausted and unable to go any further.

LORD MERSEY.—Mr. Aspinall, do you suggest that any of the people on the *Storstad* misbehaved with regard to saving life?

MR. ASPINALL.—No, my Lord, on the first day of the inquiry I said on one occasion that speaking for myself that was my view, and I will say now it is speaking for everybody too, that is for my clients.

LORD MERSEY.—Well, Mr. Gisbone, under these circumstances, do you think it is worth while to call other witnesses to substantiate what these witnesses have spoken to?

MR. GIBSON.—No, my Lord, I do not. I think the whole point is cleared up now.

LORD MERSEY.—Then I think we will pass to something else.

MR. HAIGHT.—I only asked Mr. Henderson to be here because our people felt that the world as a whole believed we had deserted drowning people. My only purpose in having Mr. Henderson here is to prove how close the *Storstad* came to the *Empress* while we were sending our boats back and forth. After your Lordship's pronouncement I do not require him any further.

MR. ASPINALL.—Now, my Lord, I was going to call the first-class passenger steward, and also the second and third-class passenger stewards, and thus dispose of the stewards' department.

LORD MERSEY.—Well, proceed, Mr. Aspinall.

AUGUSTUS GAABE, chief steward, *Empress of Ireland*, sworn.

By Mr. Aspinall:

3406. Q. Mr. Gaabe, were you the chief steward on the *Empress of Ireland*?—A. I was.

3407. Q. Were you a steward for eight years?—A. Yes, sir, I have been chief steward for eight years.

3408. Q. Have you night watchmen about?—A. We have, sir.

3409. Q. In the first, second, and third class?—A. Yes, sir.

3410. Q. What are their duties?—A. They clean the boots during the night and see that the lamps are lighted aft, and attend generally to the passengers if they ring their bells or require anything during the night.

3411. Q. Now, were you turned in at the time of the collision?—A. I was.

3412. Q. Where is your cabin?—A. My cabin is on the port side in the main companion, but if there is a stateroom free, I generally have a stateroom, as I use my room more for an office. That night, I was sleeping in room 218, an inside room.

3413. Q. On which side?—A. On the starboard side.

3414. Q. On which deck?—A. The main deck; the saloon deck.

3415. Q. What woke you?—A. I am a very light sleeper, and was wakened by a crash on the ship's side. I immediately jumped out of bed, threw a dressing-gown on, went out on the main companion, and met the night watchman, and asked him where she struck. He said 'amidships', and I said 'Call all passengers you can and tell them to get life-belts on and muster on the top deck.'

3416. Q. And did he proceed to do that?—A. Yes. I then went back to my room and slipped on a pair of trousers and a coat, which didn't take very long. Then I went out in the companion. There were several ladies there and I told them to go out on deck. Several of them clung to me and asked me to save them, and I said 'No one will be saved unless you give us a chance to get out on deck and get the boats out.'

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And I told them to go and get their life-belts on. I then went to No. 1 boat, which they were working hard to get out, on account of the tremendous list. The purser arrived at the same time, and we had great difficulty in getting her out. At last she went out with a terrific swing, which must have swung six or eight men right into the water, and when the boat went out she must have taken another six with her, that were clinging to the side of the boat, pushing her out. I sung out to the men to pick up as many as they could and keep as near to the ship as possible.

At the same time, I heard the Captain call out something similar on the megaphone. I then, with the Purser, proceeded to the bridge. The ship had a tremendous list at that time, in fact No. 1 boat was not more than three or four feet above the level of the water when she went out. The Purser and I got up on the bridge, and I said to the Captain 'I suppose there is no chance of running her ashore'? and he said 'No, that steam was shut off,' and I said 'Well, this looks to be about the finish', and the Captain said, 'Yes, and a terrible finish it is too.'

In less than half a minute I was submerged, and the ship went down, leaving me in the water. I did not know what happened to the Captain or the Purser. I cannot swim, and I came up for the last time and I grabbed hold of something which after about twenty minutes I found to be a corpse with a life-belt on. I managed to raise myself up and to keep my head above water. Some time after I got amongst some broken wreckage, and I transferred myself as soon as possible from what I had hold of. I must have been in the water fully 45 minutes before I was rescued, which I understand was by one of the ship's boats. I couldn't say what boat it was; I couldn't say how they got me aboard a vessel which I afterwards found was the *Eureka*. I was landed at Rimouski, and with a saloon passenger and a lady was soon taken away and got to bed, as we were in a very great state of collapse.

3417. Q. I want you to tell me this, did you see any of your steward staff going to the water-tight doors?—A. I didn't only see one man proceeding to the water-tight doors.

3418. Q. When you say you didn't only see one man, you mean you only saw one man, don't you?—A. Yes.

3419. Q. That was a steward?—A. Yes, a man named Hayes.

3420. Q. Which door was he going to?—A. To the one that closed the forward door—the steerage dining-room.

3421. Q. Did you see if he did operate it?—A. No, sir.

3422. Q. You do it with a ratchet, don't you?—A. In that particular one it is with a handle. Some are with a handle and some with a key.

3423. Q. You saw him walking over to do it?—A. Yes.

3424. Q. Speaking of your staff, as far as you could see, did they behave well?—A. I never saw any one misbehave themselves at all. Every one that I saw was behaving well.

By Mr. Newcombe:

3425. Q. The weather that night, was it fine?—A. Well, I didn't see very much of it. Of course I had been in bed, and when I got out it was rather dark.

3426. Q. Do you know whether the portholes were open in the cabins?—A. The lower portholes would be closed, and what we call the interchangeable alleyway, or main deck, which is considerably above the water, probably would be open. But there is a notice left each night by the bedroom stewards, posted on the indicator, denoting what ports are open, so that in case of a sea or anything going on to close them up immediately.

By Lord Mersey:

3427. Q. Did you state that you saw a body with a life-belt on?—A. Yes.

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3428. Q. How was the dead body, was the head up out of the water?—A. The head was down.

3429. Q. Can you tell us whether that life-belt was properly attached to the body?—A. It appeared to be so, sir.

3430. Q. Then how do you account for the head being down?—A. I imagine he had been killed the same as several were.

3431. Q. You don't think he had been drowned?—A. No, sir, I think he had been killed. All the gear coming over from the port side and coming across the deck would probably kill a lot of people that had life-belts on, sir.

WILLIAMS, chief second-class steward, *Empress of Ireland*, sworn.

By Mr. Aspinall:

3432. Q. Mr. Williams, were you the chief second-class steward on the *Empress of Ireland*?—A. I was, sir.

3433. Q. Had you been on the *Empress* seven years at the time this accident happened?—A. Seven years and seven months, sir.

3434. Q. At the time of the accident, where were you?—A. In bed, sir.

3435. Q. Where is your bed?—A. In the forward end of the second-class dining room, on the starboard side.

3436. Q. Did you wake at once?—A. I must have been awake a couple of seconds before the accident.

3437. Q. What did you do?—A. I jumped up and looked through the port and just saw the *Storstad* just sliding slowly past our port.

3438. Q. Sliding slowly past?—A. Yes, sir.

3439. Q. And what did you do then?—A. I just slipped my trousers on sir and called Mr. Lewis that was sleeping in the room with me, and went through the second-class dining room, sir, down aft, to see if the two night watchmen were calling the people on the two lower decks.

3440. Q. Who are those two night watchmen?—A. Tresner and Paddy, sir.

3441. Q. Were they calling the people?—A. Yes, sir.

3442. Q. Would it be their duty to do so?—A. It was their duty, yes, sir.

3443. Q. What did you do then?—A. The siren went for the boats, sir, and I went up.

3444. Q. What does the siren mean?—A. Boats and water-tight doors.

3445. Q. It is the signal for the boats and water-tight doors?—A. Yes, sir.

3446. Q. And you went up to the boats?—A. Yes, sir.

3447. Q. On the boat deck?—A. Yes, sir.

3448. Q. Which side of the boat deck?—A. I went on the port side.

3449. Q. On the port side?—A. Yes, I went to go on the port side.

3450. Q. Why?—A. Because my boat was there.

3451. Q. Which is your boat?—A. No. 6.

3452. Q. And you wished to go to your own boat, and you knew it to be Number 6?—A. Yes, I knew it, but I knew it was useless to go there.

3453. Q. Then did you go on the starboard side?—A. Yes, I went on the starboard side to No. 13 boat.

3454. Q. And what happened about it?—A. We got her out, sir, after a lot of trouble. The ship was listed over so badly it was almost impossible to get her out. We got her half-way out, the aft end, and then she got stuck right in between the davits, and then Mr. Moore, the fifth officer, asked me to jump in and try to twist the block, which I did, and she went out with a tremendous swing and threw me flat on my back in the boat.

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3455. Q. And did she reach the water?—A. Yes, she was lowered to the water.

3456. Q. And did she save life?—A. Yes, quite a number, full up.

3457. Q. And where did you take the people to?—A. To the *Storstad*.

3458. Q. And did the boat come back?—A. Yes.

3459. Q. What did you do?—A. I went to the *Storstad*. I had taken my trousers off then to give them to another man.

3460. Q. You were a steward?—A. Yes.

3461. Q. But the boat went back then?—A. Yes, sir.

3462. Q. That it all you know about it?—A. Yes, sir, that is all I know.

By Mr. Haight:

3463. Q. Where were you, Mr. Williams, when you could first see out on your starboard side immediately after the jar of the collision?—A. When I looked over the port or when I got on the deck?

3464. Q. Through the port?—A. I was in my room, sir.

3465. Q. And you looked out of your own porthole?—A. Yes.

3466. Q. Was it then you saw the *Storstad* sliding by?—A. Yes, almost just going past.

3467. Q. That is she was going towards your stern?—A. Yes.

3468. Q. Where is your room, please?—An. On the forward end of the second-class dining room on the main deck.

3469. Q. Will you please look at the diagram of rooms on the *Empress of Ireland*?—A. I don't think it will be on that.

3470. But will you just indicate approximately in lead pencil about where your room was?—A. Yes. I have done so, sir.

3471. Q. I see that you indicate a room that is marked as the plate and glass room?—A. Yes, it has been changed, sir, this last three months. My room has been built in this plateroom and that has been put on the other side.

3472. Q. And when you came up on deck and went to the starboard side, did you see the *Storstad* then?—A. Yes, I think she had gone just around the stern.

3473. Q. The fog had not quite shut her out?—A. Not quite.

3474. Q. But she then disappeared?—A. She disappeared from my sight, and I couldn't see her after.

By Mr. Gibsone:

3475. Q. What are the duties of the night watchmen in the second-class?—A. The same as the first-class, cleaning the boots and attending the passengers, and so on.

3476. Q. You heard the evidence of the previous witness?—A. Yes.

3477. Q. And all the duties are the same as he enumerated?—A. Exactly, sir.

JOSEPH HAYES, assistant steward, *Empress of Ireland*, sworn.

By Mr. Aspinall:

3478. Q. Mr. Hayes, will you please try to speak up?—A. Yes sir.

3478. Q. Were you one of the assistant stewards in the third-class?—A. Yes. I was.

3480. Q. Chief assistant steward?—A. Assistant steward.

3481. Q. And were you turned in at the time of the collision?—A. Yes, I was turned in.

3482. Q. Did the blow or the shock wake you?—A. Yes, it woke me.

3483. Q. What did you do?—A. I just slipped on a pair of trousers and slippers and got out into the alleyway. The stewards' quarters go on to the working alleyway, and the stokehole also go on the same alleyway. When I got out it was filled

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with smoke and you could smell a nasty smell, the nasty smell that arises when you throw water on live coals, and I concluded I should go at once to my bulkhead door.

3484. Q. Which one was that?—A. Well I think the number is 78, but it is the door between the steerage dining-room and the steerage bedrooms on the starboard side.

3485. Q. You operate that from where?—A. From the same deck as the stewards' quarters.

3486. Q. And where is the door itself?—A. On the deck below, between the steerage dining-room and the steerage quarters.

3487. Q. Did you try to work it?—A. I tried, but I could not close it because of the list.

3488. Q. Which side of the ship was it on?—A. On the starboard.

3489. Q. And you would have to work it up hill?—A. Yes.

3490. Q. And you found you couldn't?—A. I couldn't.

3491. Q. And you hadn't much time?—A. No, sir.

3492. Q. Well, what did you next do?—A. I went up the main companion to the upper promenade deck, and I remained at the bottom of the companion from the upper promenade deck to the boat deck assisting a few passengers up . . . there were some ladies there . . . trying to keep a little order if possible. I remained there about four minutes, and then went on to the boat deck. The boats were getting loose by this time and there was a big list on.

3493. Q. Which side of the boat deck did you go on?—A. Port.

3494. Q. Why?—A. My boat No. 12 was there.

3495. Q. Were you able to do any good there?—A. No, sir.

3496. Eventually where did you go?—A. To the starboard side to 11 or 13, I don't know which.

3497. Q. Did you succeed in getting it out?—A. They did, with difficulty.

3498. Q. And you got it into the water?—A. Yes.

3499. Q. And having got it into the water what was done?—A. It just moved out a few yards, and picked up all the people that threw themselves in. There were only about two men in the boat then.

3500. Q. When you got it into the water?—A. The boat was lowered into the water and commenced picking up people.

3501. Q. Did you fill it?—A. It was really overcrowded.

3502. Q. And then where did it go to?—A. To the *Storstad*.

3503. And did it land the people?—A. Yes, on the *Storstad*.

3504. Q. And did you remain on the *Storstad*?—A. Yes.

3505. Q. You were a steward?—A. Yes, but the boat went back with about six of the crew in.

3506. Q. With about six of the sailors?—A. Yes.

3507. Q. And I suppose that is about all you can tell us?—A. That is all, sir.

Mr. HAIGHT.—I have no questions to ask.

Mr. ASPINALL.—My Lord, I am going to call the Marconi man, Mr. Ferguson.

RONALD FERGUSON, senior Marconi operator, *Empress of Ireland*, sworn.

By Mr. Aspinall:

3508. Q. Mr. Ferguson, you were the senior Marconi operator on board the *Empress of Ireland*?—A. Yes.

3509. Q. And you had a colleague?—A. I had an assistant, Mr. Bamford.

3510. Q. I believe he luckily was saved as well as you?—A. Yes, we were both saved.

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3511. Q. Where were you housed on the *Empress of Ireland*?—A. On the upper boat deck, after the second funnel.

3512. Q. Is that the room in which you operate?—A. Yes.

3513. Q. And also the room in which you live?—A. We have two rooms, a living-room and an operating-room with a passageway between.

3514. Do you remember the collision happening?—A. Yes, I was in my bunk at that time.

3515. Q. You were in your bunk at the time of the collision?—A. Yes.

3516. Awake?—A. Yes, I had turned in five minutes previously.

3517. Q. And was the machine at the time in charge of Mr. Bamford?—A. It was.

3518. Q. Did you feel the collision?—A. Yes, I was up when the collision actually happened. I got up as soon as I heard the whistles on the *Storstad*.

3519. Q. And what did you do?—A. I was looking out through the port in my cabin, which was on the port side. I was looking to see if I could see the ship that I heard whistling and I felt the engines going astern, and I shouted through to my junior that she was clearing out of the road of something, and after a short while, whilst I was still looking through the port, he shouted 'Here she is'. . . . that was after she had struck.

3520. Q. And where was she?—A. On the starboard side.

3521. Q. You were looking out of the port side and could see nothing, and you heard your junior shout 'Here she is,' on the starboard side?—A. Yes, after she had struck.

3522. Q. And she hit you on the starboard side?—A. I went to the starboard side into our operating cabin and saw the lights passing.

3523. Q. What did you do?—A. I immediately took up the phone, which Mr. Bamford had put down to look at the ship passing, and called up all stations, and told them to stand by for a distress signal which I expected to be sent from the bridge. That, of course, would stop anything at the time, so that I would have a clear way to get any assistance possible. In reply I received a message from Father Point saying 'O.K. here we are.' Meanwhile, I told Mr. Bamford to get me some clothes, as I was in my pyjamas of course, and he brought me those clothes, and I told him to run along the bridge and ask if I was to call distress signals, S.O.S. to call for assistance, and then I put on my clothes and I saw the chief officer's head passing the window—I was looking out of course, and I went out and met him at the door and I asked him if I was to call S.O.S. and he said I was, because she was sinking. So I went and took up the phones and called S.O.S. saying that we had struck something and were sinking fast, that the ship was listing terribly. I sent it out very slowly, because I knew that at that time there would be no senior operators on watch, so I sent it very slowly to give the junior operators a chance to understand. Father Point replied saying 'O. K.' and asking where we were. I thought a minute for no one had told me the position, but I remembered them putting down the pilot, and I said we were about twenty miles past Rimouski. He then said: 'Twenty miles,' wanting me to confirm it, to show that he had it right, and while I was saying yes, the power shut right off, and my handle went back and I was left without any power, and the lights went out too.

By this time I was standing with one foot on the bulkhead and one on the floor, she had listed so terribly, and of course all my papers and books were strewn all over. Then I went out on the deck and was holding on to the rail, and was shouting through my hands as a megaphone that there were plenty of ships coming, I saw Mr. Jones the first officer and the second officer, and others, attending to the boats, and the chief officer came alongside and said: 'What's that?' and I told him. . . . I repeated to him that we would have assistance in less than an hour, and he said to clear to my boat. Then I went back into the cabin to work my emergency to see if I could get another call in. I omitted to mention that Father Point said he was sending the *Eureka* in

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reply to my calls, and also the *Lady Evelyn*. I got that after my power was shut off. As I was saying, a few minutes ago, I went to get the emergency gear in working order, and the first thing I knew the drawer had come out from under the desk and it hit me, and the emergency gear could not be used, the accumulators burst, and the ship was lying on her side practically by this time, and I went outside and got hold of a deck chair, that was lying there and intended to jump for it, for I had no belt, and then she gave a sudden lurch and jerked me into the water. But previous to this, I had heard a terrible clattering of all the boats from the port side crashing across the deck to the starboard side. I landed in the water and was there about a quarter of an hour possibly, it seemed a long time to me, and I was picked up by one of our boats running into me, and I caught hold of the gunwale, and eventually managed to get into the boat.

By Lord Mersey:

3524. Q. You say you put on what clothing?—A. A pair of trousers, a jacket, and a pair of shoes which my junior had brought to me, and my overcoat was hanging up in the room and I put that on too.

3525. Q. Which you got rid of, of course?—A. I got rid of those in the water.

3526. Q. Wouldn't you have been better with only your pyjamas?—A. I certainly would. When I put them on I had no intention of going into the water, my Lord.

3527. Q. You would have been better if you had not?—A. I wish I had not, because it stopped me getting into the boat when I first attempted to do so.

By Mr. Aspinall:

Mr. Bamford the junior operator is here, but I don't propose to call him, he can add nothing to your statement.

3528. Q. Did he give you every assistance?—A. Yes, sir, he did.

By Mr. Haight:

3529. Q. Mr. Ferguson, as I understood you, you got out of your bunk when you heard the *Storstad* blowing her whistle, and before the vessels collided?—A. I did.

3530. Q. What whistles did you hear?—A. I heard one whistle. I cannot say if it was a long blast from her.

3531. Q. You only heard her blow once?—A. Yes.

3532. Q. And when you got out of your bunk and looked for the *Storstad* in the fog I understood you to say that you then felt your engines going astern?—A. No, I felt them going astern when I got out of my bunk.

3533. Q. Do you know how long they had been going astern before you got out of your bunk?—A. No, I cannot remember at all coherently, I can remember the facts.

3534. Q. You had noticed the astern vibration before that?—A. I don't remember that, I remember my feeling the vibration, but I cannot place it in order.

3535. Q. Now, when you first looked out you looked to the port side?—A. I looked through the port on the port side.

3536. Q. Did you see the *Storstad*?—A. I saw it but not until after the jar, the lights were passing astern then.

3537. Q. Was the jar forward of your room or aft as the point of contact?—A. It must have been forward because the lights were passing aft at the time.

3538. Q. As soon as you felt the jar of the collision you went to the starboard side?—A. There is a passage way that leads behind a kind of funnel that comes up from the cabins down below and this separates the two rooms, with an alleyway alongside.

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3539. Q. But it was only a matter of a few seconds before you got to the starboard side after the collision?—A. Just a second of course.

3540. Q. How much of a jar was there?—A. Practically nothing.

3541. Q. And when you got to the starboard side you then saw the *Storstad* going astern?—A. Yes, that is right.

3542. Q. How far had she got on your starboard side, abreast of your room or aft?—A. She must have been abreast because I did not look close to the window. I just saw her as she came by the window.

3543. Q. Did you see the lights of her?—A. That is all I did see.

3544. Q. Did you see any coloured lights?—A. No, I did not.

3545. Q. Did you see the *Storstad* enough to know how she was heading at the time she went by?—A. I never saw the way she was heading. I just saw a blaze of lights passing the window. I saw them as I was picking up the phone.

3546. Q. When you got on deck did you see the *Storstad*?—A. No, I saw nothing but the people on the deck, except when I was in the boat of course.

3547. Q. From the time you stepped out of your bunk up to the time of the collision how much time approximately elapsed?—A. I could not tell you.

3548. Q. Was it under a minute? Was it a matter of seconds?—A. I could not comprehend a minute at the time but it certainly was not long.

3549. Q. You just had time to slip on your gown and go to the port side?—A. I was looking out from the port side and saw nothing. I cannot say how long I was looking there until Mr. Bamford shouted and said 'Here she is' after she had bumped. He must have seen her just as she was banging.

By Mr. Newcombe:

3550. Q. There is a question framed here which I wish to ask you now. What installations for receiving and transmitting messages by wireless telegraphy were on the *Empress of Ireland*?—A. Marconi, standard, one and a half kilowatt installation, with a complete emergency gear.

3551. Q. You have stated that there were two operators?—A. Yes, both with first-class British Government certificates.

3552. Q. And they would be in attendance upon the transmitters and apparatus continuously?—A. Yes, we keep six hours' watch, six on and six off.

3553. Q. Were these installations in good and effective working order at the time?—A. In perfect working order all the time.

3554. Q. Is the number of operators quite sufficient to attend to the apparatus?—A. Yes, the same as supplied on every ship, even the largest ship.

3555. Q. None of the ships carry more than two?—A. No, none of the British ships.

3556. Q. So that the arrangements were satisfactory for communicating messages at any time, day or night?—A. Oh, absolutely, yes.

LORD MERSEY.—Is there any other witness you can conveniently dispose of to-night, Mr. Aspinall?

Mr. ASPINALL.—No, my Lord.

By Lord Mersey:

3557. Q. Where is that gentleman, the Marconi operator. Will you come back one moment? Did you hear any crash or tearing as the *Storstad* passed you?—A. No, I did not, my Lord.

3558. Q. Was there a great deal of noise?—A. No, not that I noticed, my Lord.

By Mr. Haigh:

3559. Q. May I ask one or two questions of Bamford the assistant?

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By Lord Mersey:

3560. Q. How soon after the S.O.S. signal went out did the tugs turn up? Do you know (addressing Edward Bamford, the junior assistant who had entered the witness box)? How soon after the S.O.S. signal did the two tugs, the *Lady Evelyn*, and the other one turn up?—A. The *Eureka* turned up first about twenty minutes or half an hour after, and the other three-quarters of an hour.

3561. Q. About half an hour after you signalled S.O.S.?—A. About that as near as I can recollect.

EDWARD BAMFORD, assistant Marconi operator, *Empress of Ireland*, sworn.

Examined by Mr. Haight:

3562. Q. Did you, Mr. Bamford, hear whistles blown by the *Storstad* before the collision?—A. Yes, I heard one long blast.

3563. Q. You only heard it once?—A. Once only.

3564. Q. Were you looking out from your window towards the starboard side when the *Storstad* came into view?—A. Yes, starboard side.

3565. Q. What did you see when first she came out of the fog?—A. I saw the mast-head light only.

3566. Q. And was that on your left hand or right hand?—A. It was on my right hand, drifting past, going aft.

3567. Q. And was that before or after the contact?—A. After the contact.

3568. Q. Did you see her before the contact?—A. No.

3569. I understood Mr. Ferguson to say you called out: Here she is now?—A. Yes, that was after she had struck.

3570. Q. The contact was forward of where you were?—A. Yes.

3571. Q. The first you saw was the light as she came by going astern, drifting aft towards your stern?—A. Previous to that I had been out on the boat deck between two of the boats, and had seen the *Storstad* with her head in our side.

3572. Q. When you went out on the boat deck and looked at her was that immediately after the jar of the collision?—A. Yes.

3573. Q. It was after?—A. Immediately after. I walked straight out.

3574. Q. And how far forward from where you stood was the *Storstad* then?—A. Quite a little distance, I did not measure it.

3575. Q. A hundred feet or something like that?—A. Not quite so far as that. I thought she was in the region of the fore funnel at the time.

3576. Q. She was then at right angles to you or angling towards the bow or the stern, or could you not tell?—A. I should say she was a point or two astern towards our bow then, not very far.

3577. Q. That is the more acute angle was between her starboard side, and your starboard bow from the stem down?—A. Let me see.

By Lord Mersey:

3578. Q. Do you understand that?—A. Not thoroughly, I don't.

3579. Q. Well then, don't answer it. When you do understand it then try to answer it.

By Mr. Haight:

3580. Q. The boats were in this position. They were not at right angles quite. Was the stern of the *Storstad* nearer your stern or nearer your bow?—A. Slightly nearer the bow.

3581. Q. Did you notice any change in the position of the *Storstad* as she came by you?—A. No, I immediately returned to my cabin.

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3582. Q. Did you get on your clothes?—A. No, I had my clothes on.

By Lord Mersey:

3583. Q. Did you put them off?—A. No, not at all.

3584. Q. That is what you should have done?—A. I never thought it was necessary.

By Mr. Haight:

3585. Q. Did you see the lights of the *Storstad* come by you after you came back in your room?—A. I saw her masthead light go by as I looked out of my porthole and that is when I called to Mr. Ferguson.

3586. Q. Did you see the smash?—A. No, I saw nothing but the masthead light.

3587. Q. When you did get out on deck had she gone off in the fog?—A. I never saw her again after that till we got into the boats.

LORD MERSEY.—You two young gentlemen did great credit to the service you are in.

By Lord Mersey:

3589. Q. Will you tell me this. You saw the *Storstad* on the starboard side as you were looking out?—A. Yes.

3590. Q. She was then, as I understand it, to your right hand?—A. When she had her head in our side she was on my left hand.

3591. Q. Did you see her when she had her head in your side?—A. Yes.

3592. Q. Did you see her back out?—A. No, I went immediately back to my cabin.

3593. Q. But you afterwards saw her again?—A. I was looking through the porthole.

3594. Q. And you saw her passing, as I understand it, to the stern of your ship?—A. Yes.

3595. Q. Now I want to know about that. Could you tell me whether as she dragged along to the stern of your ship her stem was in contact with your hull?—A. I should not think so, I did not feel any grating or grinding at all.

3596. Q. You did not feel any grinding or grating?—A. No.

3597. Q. Was that your impression that the only grating was the grating caused by the actual collision?—A. So far as I know, sir.

3598. Q. What I want to get at, and what I want to know if I can is this, was the side of your ship torn after it was breached by the collision?—A. That I cannot tell.

3599. Q. You don't know?—A. No.

3600. Q. Have you any opinion—but perhaps your opinion is not worth anything then?—A. Possibly not.

3601. Q. I won't ask you.—A. I was not on the edge of the boat deck, I was some little distance in.

By Mr. Haight:

3602. Q. Did you hear whistles blown by the *Empress*?—A. I was conscious of hearing several whistles, but I cannot say what they were.

3603. Q. Were you conscious of feeling the reverse movement of your engines?—A. I noticed the vibration a great deal.

3604. Q. Was she vibrating a great deal when you felt the jar of the collision?—A. No, she had ceased.

3605. Q. How long before?—A. A very short period before.

3606. Q. A few seconds?—A. I should think so.

SESSIONAL PAPER No. 21b

By Mr. Aspinall:

We have one more witness of the ship, my Lord. He is the doctor. I should prefer it if you would assent to my calling him to-morrow.

By Lord Mersey:

Very well.

The Commission thereupon adjourned till 10 a.m. Friday, June 19.

FOURTH DAY.

QUEBEC, FRIDAY, June 19, 1914.

The Commissioners appointed by the Honourable John Douglas Hazen, the Minister of Marine and Fisheries of Canada, under Part X of the Canada Shipping Act as amended, to inquire into a casualty to the British Steamship *Empress of Ireland*, in which the said steamship belonging to the Canadian Pacific Railway Company was sunk in collision with the Norwegian Steamship *Storstad*, in the River St. Lawrence on the morning of Friday the 29th day of May, 1914, met at Quebec this morning, the nineteenth day of June, 1914.

LORD MERSEY.—Now, Mr. Newcombe, whom do you wish to call?

MR. NEWCOMBE.—Would it be convenient for your Lordship to take Mr. Hillhouse, who will present plans and explain the structure of the ship?

LORD MERSEY.—Mr. Aspinall, we have had no one from the boiler room here.

MR. ASPINALL.—I was speaking with some of my colleagues about that.

MR. HAIGHT.—Before we start the formal session, may I ask to be allowed a moment or two on a question of personal privilege? I should like to refer to the proceedings of the Court yesterday. The case must, I think, have some explanation other than a deliberate change of course on the part of one ship or the other when the change of course seemed to be a mere act of madness. When, therefore, the quartermaster of the *Empress* came to me, quite unsolicited, and when he had withstood the cross-examination of Mr. Newcombe and myself, I felt it to be my duty to my client and to this Court to present that evidence to the Court. But during the discussion which preceded the examination, and in answer to certain definite questions from your lordship, I made answers which I should not like to stand on the record unexplained. If I had had an opportunity to choose my words with a little more care I should have expressed myself quite differently. But your Lordship may remember that the questions were perhaps somewhat leading and I answered them as asked without an opportunity of expressing myself as I should like to have done. While I feel that care should have been taken by the executive staff of the Canadian Pacific Railway Co. to hold the quartermaster after he had been ordered held by Counsel, I do not wish to be understood as suggesting for one moment that the Counsel of the line had any part in any manœuvre to spirit away a witness or to suppress evidence. It would be farthest from my belief or desire to express the thought that the eminent gentlemen sitting at the table before me are actuated by anything but the strictest regard for the ethics of the profession which we all practise.

LORD MERSEY.—Mr. Haight, your conduct in this case hitherto, in my opinion, has been quite irreproachable. You have done your best, and in my opinion you

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have acted in the wisest way in the conduct of the cause which has been entrusted to you here. It may be—let me say it—that in my conduct of the inquiry yesterday I became a little heated because I did not like one of your witnesses, but do not attribute my observation to anything you said or did for whatever you said or did was done with proper care and in the best interests of the people you represent. I am glad you have given me an opportunity to say that.

MR. ASPINALL.—On behalf of Mr. Beatty and Mr. Holden, I have to thank Mr. Haight for what he has said.

LORD MERSEY.—You must say something more, Mr. Aspinall, about the boiler room.

MR. ASPINALL.—I was going to, My Lord. You Lordship asked me if we had any evidence of any person who was in that space at the time that the blow was struck. I have asked Mr. Holden, who was closely associated with the witnesses in getting the case up, if he could find any of the witnesses who could deal with that matter.

MR. HOLDEN.—We have, my Lord, the three junior engineers on duty, here—Mr. O'Donovan, Mr. McKeown and Mr. White, two of whom were in the boiler room. We have cabled for three greasers who went on the steamship *Corsican* by oversight and who are not back yet. The other trimmers and firemen went by the *Corsican* immediately after the casualty and are not here.

LORD MERSEY.—If I understand, the question that calls for an answer is this: What was the real cause of the very quick foundering of this vessel? We have understood that she was constructed so as to float with any two of her watertight compartments open to the sea. We have not yet had any satisfactory evidence to show that more than two were open to the sea and that is one of the matters to which I want to direct your attention.

MR. ASPINALL.—In regard to the latter matter, the importance of which I fully appreciate, I am afraid there would be no evidence forthcoming to enable your Lordship to say with certainty that more than two of these compartments were open to the sea.

LORD MERSEY.—You know that the day before yesterday, I think, I expressed an opinion—perhaps it was a hasty opinion—that the explanation of the rapid foundering of the vessel was apparent. What I had in my mind then was this: There was evidence that the *Storstad* had struck the *Empress* upon one of the bulkheads—No. 6, the result of which was the filling of the two compartments. Then I thought there was evidence, though I am not sure of it, that the stem of the *Storstad* had then been torn along towards the stern on the starboard side of the *Empress* and had probably opened other compartments besides those which were opened to the sea at the moment of contact and I thought that was sufficient explanation of the very rapid foundering of the ship. I have asked several witnesses we have had whether they could tell me if that damage had actually taken place but I have not had any answers which would satisfy me.

MR. ASPINALL.—From the first I have very closely considered whether there was any evidence which would enable the Court to come to the certain conclusion that more than two compartments were open to the sea, but I regret to say that in so far as I can see there is no testimony available to give your Lordship that information.

LORD MERSEY.—Now we must have the plans which, I understood from Mr. Newcombe, he was preparing this morning, and our naval architects who sit with us will have them before them and they must advise us as to whether the plans are such that the steamer would remain afloat if only two and not more than two compartments were open to the sea.

SESSIONAL PAPER No. 21b

Chief Justice McLEOD.—Has there been any attempt to find the present condition of the ship?

Mr. BEATTY.—Yes, my Lord; divers are now over the vessel, not divers particularly concerned with the vessel itself, but divers who are there for another purpose and they are to give us the result of their exploration of the water.

LORD MERSEY.—Are they there in the interest of the underwriters?

Mr. BEATTY.—In the interest of the underwriters of certain cargo and the Postmaster General.

LORD MERSEY.—There was some bullion on board?

Mr. BEATTY.—Yes.

LORD MERSEY.—And they are there in the interest of the underwriters of the bullion?

Mr. BEATTY.—And the Postmaster General.

LORD MERSEY.—The mails were on board.

Mr. BEATTY.—Yes.

LORD MERSEY.—Now, Mr. Newcombe.

Mr. NEWCOMBE.—My learned friend suggests that a convenient course might be for Mr. Hillhouse at present to produce his plans and make any preliminary statement which any member of the Court might desire leaving his more detailed explanations until after the evidence of the navigation has been completed. There are a number of the officers of the Norwegian ship to be called yet and they have their interpreter here ready to go on.

LORD MERSEY.—You take the course which you think most convenient.

Mr. NEWCOMBE.—Your Lordship suggested yesterday that it would be well at as early a stage as possible to put the Tribunal in possession of the technical information in respect to the plans and structure of the ship and I wish to carry out that suggestion to the satisfaction of the Tribunal.

LORD MERSEY.—Call the witnesses in the order that you think most convenient; you know better than we do.

PERCY A. HILLHOUSE, naval architect, re-examined.

By Mr. Newcombe:

3607. Q. You are connected with the Fairfield Shipbuilding and Engineering Company, Mr. Hillhouse?—A. Yes.

3608. Q. In what capacity?—A. Naval architect.

3609. Q. Their establishment being at Glasgow?—A. At Govan, a part of Glasgow.

3610. Q. They were the builders of the *Empress of Ireland*?—A. Yes.

3611. Q. Were you connected with the firm at the time of the building of the *Empress*?—A. Yes.

3612. Q. Familiar with the plans, specifications and structure of the vessel?—A. Yes.

3613. Q. Do you produce these plans and specifications, Mr. Hillhouse?—A. Yes. Many of the plans have already been produced in Court; in fact, I may say all of them; and I have the specifications here.

3614. Q. Will you produce them, please?—A.—

By Lord Mersey:

3615. Q. I want those plans and specifications arranged in the order that you think is most convenient for reference, and then let them be numbered and made

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exhibits; but I shall leave you to arrange the order that you think would be best.—A. Do I understand that you want me to submit plans different from these?

3616. Q. No, certainly not.—A. Because the plans that are there are what are called working plans and they are hardly fit for production but these are copies of them.

3617. Q. Then let us have the copies, but arrange them in the order in which you think they would be most easily referred to and let them be numbered as exhibits.—

A. Yes, my Lord, I will do that.

LORD MERSEY.—Where is the bundle of plans?

Mr. TASCHEREAU.—Here they are, sir.

LORD MERSEY.—Are these all?

Mr. TASCHEREAU.—Three have been filed.

The WITNESS.—There must be more than three.

By Lord Mersey:

3618. Q. Where are they?—A. They have all been brought into court.

By Mr. Newcombe:

3619. Q. What plans do you produce?—A. This (referring to plan) is a large scale profile.

3620. Q. A profile plan?—A. Yes.

LORD MERSEY.—Open it out and let us see it.

Mr. NEWCOMBE.—Is this plan marked?

Mr. TASCHEREAU.—‘I.’

LORD MERSEY.—Where is the ‘I’?

Mr. TASCHEREAU.—In the corner.

Mr. NEWCOMBE.—There is a ‘G’ in this corner.

Mr. TASCHEREAU.—That is not the right mark; that was put on by one of the lawyers.

LORD MERSEY.—Let me see it. (The plan having been shown to His Lordship.) Is that marked in lead pencil?

Mr. TASCHEREAU.—Yes, my Lord.

LORD MERSEY.—It is nearly invisible.

Mr. TASCHEREAU.—I will get it printed.

By Lord Mersey:

3621. Q. That is a plan of the ship?—A. (The witness). Yes.

3622. Q. It shows the decks?—A. The decks, bulkheads and side lights.

3623. Q. Just hold it up. The numbers of the watertight bulkheads run from stem to stern?—A. Yes.

3624. Q. Beginning with 1, 2, 3, and going on to 10?—A. Yes.

3625. Q. All these bulkheads go up to which deck?—A. The upper deck.

3626. The deck which you call the upper deck is where I see the mark there ‘upper’?—A. Yes.

3627. Q. Where is the lower deck?—A. The lower deck is the lowest deck and it only occurs at the fore end of the ship and a little at the after end.

3628. Q. Then there are the lower deck, the main deck and the upper deck?—A. Yes, sir.

3629. Q. And these bulkheads go up all over the ship to the upper deck?—A. Yes.

3630. Q. I suppose that we do not see in this profile all these bulkheads with their water-tight doors? Have they all water-tight doors?—A. Not all of them.

3631. Q. Are some made without any doors?—A. Some are made without any doors.

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3632. Q. Could you indicate which of the bulkheads have no doors?—A. The deck plan would indicate that more clearly.

3633. Q. Now, put that aside. What is the next plan?—A. The next plan is the hold plan.

3634. Q. Let us see it.—A. This is a plan of the lower portion of the ship underneath all the decks.

3635. Q. This is a plan of what we might call the bottom of the ship inside?—A. —

Mr. NEWCOMBE.—What is the number of it?

Mr. TASCHEREAU.—‘J.’

By Lord Mersey:

3636. Q. Is that plan of any importance in this inquiry?—A. (Witness) Yes, it shows the engine and boiler space and the bulkheads dividing them at their lower portions.

3637. Q. Will you show us the engine space?—A. This (indicating on plan) is the aft end of the engine space and that the fore end. From here to here is the aft boiler room and these the coal bunkers, the boiler room being in the centre and the coal bunkers surrounding the boilers. From this point to that point is the forward boiler room with the coal bunkers, the boiler room being in the centre and the bunkers surrounding the boilers.

3638. Q. This (indicating) on the right hand side is the stem of the ship?—A. Yes.

3639. Q. And on the left hand side the stern?—A. Yes.

3640. Q. Just show me the engine space again.—A. The engine space is from this bulkhead to that bulkhead, the aft boiler room from this bulkhead to this bulkhead, and the forward boiler room from this bulkhead to this bulkhead.

3641. Q. Point out No. 6 bulkhead.—A. Here, between the two boiler rooms.

3642. Q. Is that five or six?—A. Six.

3643. Q. That is what I wanted to know; that is where it is suggested, the impact took place?—A. Yes, my Lord.

3644. Q. Destroying the bulkhead between these two boiler spaces?—A. Yes, my Lord. Perhaps I was not right in saying this is six.

3645. Q. Well what is it?—A. No, it is five.

3646. Q. Why did you point out five when I wanted six?—A. By mistake, my Lord.

3647. Very well; put your pencil across six. Now, this is the bulkhead between the aft boiler space and the engine space?—A. Yes.

3648. Q. And this is the bulkhead which is alleged to have been destroyed?—A. I understand this is the bulkhead which is alleged to have been destroyed between the two boiler rooms.

3649. Q. Am I wrong in supposing that the evidence is that No. 6 was destroyed?—A. I think so, my Lord.

3650. Q. The evidence, you think, is that No. 5 is the bulkhead that was destroyed (to Mr. Aspinall). Is that so?

Mr. ASPINALL.—Yes, my Lord.

LORD MERSEY.—Very well, that is my mistake.

3651. Q. (To witness) No. 5?—A. Yes.

3652. Q. And No. 5 is the bulkhead between the two boiler spaces?—A. Yes.

3653. Q. You had the construction of this ship under your supervision, I understand?—A. Yes.

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3654. Q. Can you tell me whether, in your opinion, on the principles followed in the construction of the ship, the opening of these two large spaces in the centre of the ship to the sea would still leave the ship floating?—A. Yes.

3655. Q. And in your view the water must in some way or another have found its way into some other space in the ship?—A. Yes.

3656. Q. Are the ten bulkheads shown on that plan (referring to Exhibit 'J')? A. Yes.

3657. Q. Indicate them?—A. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10.

3658. Q. There were three in the after part?—A. Yes.

3659. Q. What is the third plan?—A. The next is the lower deck plan (referring to Exhibit 'K') showing, at the fore end, the third class accommodation, in the mid-ship portion the upper coal bunkers and in the after portion the cargo space.

3660. Q. Is it in these upper coal bunkers that the door is found on the upper starboard side of the ship the bottom of the sill of which was supposed to be 14 or 15 feet above the top of the centre watertight door through which the water flowed?—A. Yes, these two doors are shown upon this plan.

3661. Q. Where are they?—A. That point and that point (indicating on plan).

3662. Q. These are the two doors and these doors, we were told, were, in fact, closed; they did not require to be closed because they were already closed. Is not that so?—A. —

Mr. NEWCOMBE.—That is what I understood the witness to say.

By Lord Mersey:

3663. Q. Very well, put that plan away. What is the next plan?—A. (Witness). The next plan is a lithograph showing all the decks above the lower deck.

Mr. NEWCOMBE.—Has that been produced?

Mr. TASCHEREAU.—It has not been filed.

By Sir Adolphe Routhier:

3664. Q. Do the bulkheads extend to what you call the lower deck?—A. The lower deck passes through the bulkheads or the bulkheads extend to and below the lower deck.

By Lord Mersey:

3665. Q. The bulkheads extend to the upper deck?—A. Yes.

3666. Q. Now, what is this? (referring to plan produced)?—A. This is a lithograph plan showing the decks above the lower deck—the main deck and the upper deck. (Plan filed and marked Exhibit 'L.')

3667. Q. This is marked 'main deck'?—A. It is a repetition of the lower deck; it is the main deck. There you have the upper deck. This is the saloon deck, this the lower promenade deck, this the upper promenade deck and there is another exhibit showing the boat deck.

By Mr. Newcombe:

3668. Q. Do you produce a plan of the boat deck?—A. Yes, I have a plan of the boat deck also. Has not that been produced?

Mr. NEWCOMBE.—No.

LORD MERSEY.—What is this?

Mr. NEWCOMBE.—The boat deck. (Plan filed and marked Exhibit 'M').

By Lord Mersey:

3669. Q. What is this?—A. (The witness). The boat deck plan.

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By Chief Justice McLeod:

3670. Q. That is the deck on which the boats were?—A. Yes.

By Sir Adolphe Routhier:

3671. Q. The boats and rafts?—A. There were no rafts.

Mr. NEWCOMBE.—Then there is a plan of the orlop deck; it is a little out of order.

LORD MERSEY.—Well, this is out of order.

Mr. NEWCOMBE.—It is.

LORD MERSEY.—It should be put in its order. This is the orlop deck plan. It is the lowest deck plan of all. You go to the upper deck and then the boat deck and now you introduce the orlop deck.

By Mr. Newcombe:

3672. Where should this come in?—A. (Witness). This should follow the hold plan. It can be marked 'J one', 'J' being the lower deck plan.

3673. Q. You will put it in the order on the file in which you think it should be examined. That disposes of the deck plans?—A. Yes.

3674. Q. What plan would you produce next?—A. The only other plan is the midship section, of which six copies were made. I do not know whether any are in Court or not.

By Mr. Holden:

3675. Q. Were they made lately?—A. They were made in Montreal.

By Lord Mersey:

3676. Q. Are we at the end of the plans?—A. There is still a plan of the midship section but it does not seem to be here at present.

3677. Q. Well, there is one plan to be added to make the set complete?—A. Yes.

3678. Q. Now, I want you to tell me how the lifeboats on the boat deck are numbered?—A. Yes.

3679. Q. How are they numbered—odd numbers on one side and even on the other?—A. Yes.

3670. Q. Are the odd numbers on the port side?—A. The odd numbers are upon the starboard side.

3671. Q. And the even numbers on the port side?—A. Yes.

3672. Q. Give me the numbers on the starboard side.—A. 1, 3, 5, 7, 9, 11, 13.

3673. Q. And on the port side—2, 4, 6, 8, 10,—is that it?—A. 12 and 14. They must be from 1 to 15 on the starboard side and 2 to 16 on the port side.

3674. Q. How many boats in all would that make?—A. 16 steel boats.

3675. Q. These are all on davits?—A. Yes.

3676. Q. Are there any boats on the boat deck except those?—A. Yes.

3677. Q. What are they?—A. Under each of these steel boats there was fitted a collapsible boat of the Englehardt type.

3678. Q. Is there anything on the plans, or if not, can you produce a statement showing the capacity of these boats?—A. The plan does not show the boat capacity, but I think I can produce a statement showing the total capacity of the boats.

3679. Q. Where is that statement?—A. I think Captain Walsh has a statement of that kind or Captain Staunton.

3680. Q. It has been suggested to me, Mr. Hillhouse, that the information I am asking for can be found in the emigration certificate. I suppose that would be in the Customs here?—A. No, in Liverpool.

3681. Q. Where is the emigration inspection certificate?—A. From Liverpool.

3682. Q. Is there a copy of it?—A.—

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Mr. NEWCOMBE.—We put in a copy on the first day's proceedings and since then we have a certified copy from the Board of Trade.

By Lord Mersey:

3683. Q. You can look at the certificate and tell us what the boat capacity on the boat deck was?—A. (Witness). I see that the steel boats were 16 in number, and had a total capacity of 7,640 cubic feet.

3684. Q. How many cubic feet do you allow for each person?—A. 10 cubic feet.

3685. Q. What does that mean?—A. That means that these 16 steel boats would accommodate 764 persons.

3686. Q. What is the capacity of the Englehardt boats?—A. 9,200 cubic feet.

3687. Q. And you allow 10 cubic feet for each?—A. The same.

3688. Q. There would be accommodation in the Englehardt boats for about 900 people?—A. Yes, 920 persons.

3689. Q. That made a total capacity of about 1,700 persons?—A. Yes.

3690. Q. How many people were on board the vessel?—A. In addition to these there are four Berthon boats.

3691. Q. What are they?—A. They are collapsible boats in which the sides fold down in this fashion (indicating).

3692. Q. What is the capacity of these boats?—A. They have a capacity of 176 persons.

3693. Q. Then these two together make a capacity of about 1,800 people?—A. Yes, 1,860 is the exact total.

3694. Q. How many people were on board?—A.——

Mr. NEWCOMBE.—1,477, according to my statements, approximately.

By Lord Mersey:

3695. Q. Then there was a boat capacity of 300 or 400 more than the actual number on board?—A. 383 more.

By Chief Justice McLeod:

3696. Q. Were these boats all on the boat deck?—A. Some were upon the boat deck and some upon the lower promenade deck at the after end of the ship.

By Lord Mersey:

3697. Q. What boats were on the promenade deck?—A. There were two steel boats under davits, two Englehardt boats immediately below these, and four other Englehardt boats.

3698. Q. That is six Englehardt boats and two steel boats?—A. Yes.

3699. Q. And the others were on the boat deck?—A. Yes.

3700. Q. Have you finished with the plans?—A. This is the final plan and it is a plan of the midship section. (Plan filed and marked Exhibit 'N.') This is a cross-section of the ship showing the various decks and the thickness of the materials of their structure. Half is a section of the aft boiler room.

3701. Q. It is not a straight section right through the body of the ship?—A. No.

3702. Q. It is two halves?—A. Yes. Here we have the inner bottom.

3703. Q. That is the double bottom?—A. Yes.

3704. Q. This (indicating) is the lower deck, this the main deck and this the upper deck to which the bulkheads extend? The bulkheads go up that far?—A. Yes. Then we have the shelter deck, or saloon deck, the lower promenade, the upper promenade deck, and the boat deck.

3705. Q. Will you show us where these lifeboats were placed that were on the boat deck?—A. They are upon this lower promenade deck.

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By Lord Mersey:

3706. Q. Now, you show me the coal bunkers round the boiler space which were against the skin of the ship?—A. This is the coal bunker bulkhead; between this bulkhead and the skin of the ship is a coal space. Then above the lower deck level coal occupies this space (indicating on plan) partly over the boiler.

3707. Q. Where is the coal taken from for the furnaces?—A. In the lower parts of these bulkheads there are on each side of the ship seven coal doors, and the coal is taken through these doors into the stokehole.

3708. Q. How does the coal drop down? Just show me where the coal drops down to supply these different doors?—A. This lower deck is the only obstruction in the bulkheads between the top and the bottom; the coal naturally falls through that door (indicating) and from this level it goes through the coal hatches, four on each side of the ship.

3709. Q. When the ship goes to sea, are these hatches closed?—A. No, my Lord.

3710. Q. They are always open?—A. Yes.

3711. Q. Then there is nothing to prevent the whole of the coal coming down in the course of time to the place where the men work in stoking the furnaces?—A. The coal in the upper bunkers would only fall through the lower deck in the immediate neighbourhood of these hatches; after that it would require to be trimmed down.

3712. Q. You send men in there to trim the coal so that it would fall down through those hatches to the lower bunkers?—A. Yes, my Lord.

By Mr. Newcombe:

3713. Q. These plans that you produce are known as the builders' plans of the ship?—A. Yes.

3714. Q. Have you the specifications?—A. I have copies of the hull and machinery specifications.

LORD MERSEY.—I do not think, Mr. Newcombe, that we want those at present; later on they may become necessary.

Mr. NEWCOMBE.—Very well, my Lord.

By Mr. Newcombe:

3715. Q. You built the engines also of the ship?—A. Yes.

3716. Q. And the specifications of the engines are contained in these specifications?—A. Yes.

By Lord Mersey:

3717. Q. Have you got any general plan of the ship in profile?—A. I have what is called a rigging plan of the ship.

3718. Q. What is a rigging plan?—A. It shows an outside view of the ship, with her masts, funnels, rigging, decks, boats and side lights, and it shows the position of the main bulkheads and boilers.

3719. Q. Where is it?—A. I have it here. (Plan produced by witness.) It is a working plan of the ship, and it is somewhat difficult to see. The large plan was traced from this plan, leaving out a great many details.

3720. Q. What was the draught of this boat, fore and aft, when she left Quebec?—A. She was drawing 26 feet 10 at the fore end and 28 feet 8 at the aft end.

3721. Q. Now, can you tell me of what type were the water-tight doors in the bulkheads on the lower and main decks?—A. The doors upon the lower and main decks were what are known as horizontal sliding water-tight doors. The doors in the holds were some of them vertical sliding doors and some of them horizontal sliding doors.

3722. Q. Where were these doors worked from?—A. In all cases the gear was carried from the doors to the upper deck level.

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3723 Q. And how were they worked upon the upper deck level?—A. They were worked by handles which had to be turned around or worked forwards and backwards.

3724. Q. They were worked by hand?—A. Yes.

3725. Q. Whether vertical or horizontal?—A. Yes.

3726. Q. None of the doors were worked from the bridge?—A. No, my Lord.

3727. Q. I am asked to ask you whether the doors were fitted with sill plates?—A. Yes, my Lord, they were.

3728. Q. And how long did it take to close them?—A. That I do not know.

3729. Q. Is there no means of ascertaining?—A. I understand that experiments were made upon the *Empress of Britain* to see how long it took to close these doors, but I do not know what the results were.

3730. Q. When you say 'how long', does it mean having men at all the different closing apparatus, all working at the same time? When you make an experiment of that kind to see what time it takes to close the water-tight doors, do you put a man at each door?—A. Yes, my Lord.

3731. Q. And that is the way you ascertain how quickly they can be closed?—A. Yes, the time would be taken for each door separately.

CHIEF JUSTICE McLEOD.—But as an ordinary proposition there is not a man at each door to close them.

By Lord Mersey:

3732. Q. Do you know how rapidly it would be done?—A. No, my Lord I cannot tell you.

Mr. ASPINALL.—Before the adjournment last night I said that I might be calling the doctor of our ship. I have read over his evidence and I do not think that he would give any useful information, but, my Lord, if I might be allowed to say this: We do wish to express our very great appreciation of the good work this gentleman did. He did everything he could to alleviate the sufferings of these unhappy people.

Witness retired.

HUGH GEOFFREY STAUNTON, superintendent of life-saving appliances, C.P.R., sworn.

Examined by Mr. Aspinall:

3733. Q. Do you hold a master's certificate?—A. I do.

3734. Q. Are you in the employment of the Canadian Pacific Railway Company?—A. I am, sir.

3735. Q. What position do you hold?—A. I am superintendent of life-saving appliances, also marine superintendent.

3736. Q. What is your duty in regard to the life-saving appliances?—A. To examine all the boats, test the men in rowing, examine the doors, fire hose, life-buoys, life-belts and all life-saving appliances.

3737. Q. When did you last perform these duties?—A. On the 23rd of May, the day after the *Empress of Ireland* came in.

3738. Q. She was then where?—A. She was then in Quebec.

3739. Q. And did you inspect her thoroughly?—A. I did.

3740. Q. For the purpose of seeing that all those matters were in good order and condition?—A. I did.

3741. Q. Were they all in good order and condition?—A. Everything was in good condition.

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By Mr. Newcombe:

3742. Q. The life-saving appliances for passengers, that is the life-belts—where are they kept to be accessible to the passengers?—A. Well, they are kept in racks in the first and second class and in some cases they are on the wardrobes. In the third-class they are kept in the racks overhead.

3743. Q. In each cabin there are sufficient for all passengers who are taken into it?—A. Yes, there were 2,100 life-belts on the ship.

3744. Q. Were they in the 3rd cabin?—A. In the third cabin, in the cabin, sir.

3745. Q. In the cabin?—A. Yes.

3746. Q. Can you confirm the numbers which are stated here in the passenger certificate issued at Liverpool?—A. Yes.

3747. Q. Life-jackets for adults; how many?—A. 2,100 life-jackets altogether; 250 for children.

3748. Q. It is stated here: life-jackets for adults, 1,950; life-jackets for children, 150?—A. Is that the date of leaving Liverpool on this voyage?

3749. Q. That was the passenger certificate. This is the emigrant survey: number of life-belts, 2,212, plus 150 for children?—A. I have 2,100.

3750. Q. Does that include the children?—A. That includes the children.

3751. Q. Do you know of any boat drills before the vessel left the dock?—A. I had boat drill and had three boats in the water. I left two boats in the water; their seamen were practising pulling while the ship was alongside at Quebec.

3752. Q. What day was that?—A. I had the boat drill on the same day, on the 23rd of May, the day after she came in. I went to Montreal that evening.

3753. Q. Have you anything to do with the bulkheads?—A. I saw all the watertight doors shut.

3754. Q. Was there any experiment of sounding a call unexpectedly to have these doors closed?—A. Whether the Captain told them they were going to be closed or not, I don't know. I came down to the ship about half past eleven.

3755. Q. What happened?—A. Swung out all the boats; lowered three in the water. I couldn't put out any more because they were cargo lighters and they were coaling. After that I closed the doors; I do not think the men knew that they were going to close them.

3756. Q. Do you know how long it took to close the doors?—A. It took about 30 seconds in the engine room and from 3½ to 4 minutes on deck.

3757. Q. Were these operations carried out simultaneously, the closing of all the doors?—A. I went round myself.

3758. Q. Did you take the time on each door?—A. No, that was the whole lot, when every one was closed.

3759. Q. That is, in three or four minutes they were all closed?—A. They were all closed.

3760. Q. From the time the order was first given—A. To close the watertight doors, 3½ to 4 minutes.

3761. Q. Everything was closed?—A. Yes.

By Lord Mersey:

3762. Q. Can you tell me where were the life-belts for the crew and Captain?—A. In their own quarters.

3763. Q. Where their bunks were?—A. Yes, sir.

3764. Q. I am asked to ask you this: Was a test of life-buoys and jackets made?—A. I went into all the cabins, took them out of their racks and tried the strings and looked at the canvas around the cork. They were all in very good condition, a lot of them new.

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3765. Q. I have heard the suggestion that some of the bodies were found with life-belts around them, but that the heads of the bodies were in the water. I should think that these life-belts would be so constructed as to keep the head above the water?—A. They are, my Lord, so long as they are put on anyways right at all, and it is very hard not to put them on right.

3766. Q. Did you see the life-belts?—A. Yes, my Lord.

3767. Q. Well I think if you can you might produce one of them in Court so that my colleagues can see the belts and the position in which they are in the cabins or bunks of the persons who may have to use them.—A. Very good, my Lord.

By Chief Justice McLeod:

3768. Q. Are any instructions given to the passengers as to how to use the life-belts?—A. I could not say, my Lord; I don't go to sea in the ship.

3769. Q. Are the life-belts so constructed that passengers shall know how to use them?—A. There are illustrations on the ship showing how to put them on.

By Lord Mersey:

3770. Q. Do you think that in the steerage many people read those instructions?—A. I think in the steerage they can't help seeing them.

3771. Q. Seeing them and reading them are different things.—A. I think they would, my Lord, out of curiosity.

3772. Q. I do not know; I don't believe they ever read those things. When were the collapsible boats inspected?—A. They were inspected and were rigged, two of them, sir.

3773. Q. When?—A. On the same day, on the 23rd of May. The gear was all inspected.

3774. Q. Then were they opened up?—A. Yes, they were opened up then.

3775. Q. Two out of how many?—A. There were twenty altogether.

Witness discharged.

GEORGE O'DONOVAN, engineer, *Empress of Ireland*, sworn.

Examined by Mr. Meredith:

3776. Q. You were one of the engineers on the *Empress of Ireland*, were you not?—A. Yes.

3777. Q. At the time of the disaster you were in the stoke?—A. Forward stoke, sir.

3778. Q. I want to know whether you had any special charge of the steering gear?—A. Yes, sir.

3779. Q. How long had you had that special charge?—A. About eight months.

3780. Q. During those eight months, had you any complaints about the steering gear?—A. No, sir.

3781. Q. Anything found wrong with it?—A. Never found anything wrong with it.

3782. Q. How often did you inspect that steering gear?—A. Every day, sir.

Mr. ASPINALL.—I notice this gentleman said—I did not know it before—that he was in the forward stokehold at the time of the accident. It may be that he might be capable of giving some information with regard to what happened there at the time of the collision.

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By Mr. Meredith:

3783. Q. Can you give the Court any information which would help us in regard to what happened in the stokehole? Your stokehole was in the boiler room, naturally?—A. Yes, sir.

3784. Q. In front of the engine room?—A. Forward of the engine room, yes.

3785. Q. Can you tell us what happened; what was the first thing you felt?—A. After the impact, about 20 seconds after, water rushed through the starboard No. 2 bunker into the stokehole.

LORD MERSEY.—I should like a plan to be held up now which shows the position of the doors through which this witness says the water rushed in. (Plan showed to Court).

By Lord Mersey:

3786. Q. What do you call No. 1?

MR. HILLHOUSE.—The boilers, you understand are in this part, (indicating on plan). No. 1 is forward of the boiler and No. 2 is here. The doors of which Mr. O'Donovan speaks are one here and one there, and the same on the other side.

By Chief Justice McLeod:

3787. Q. Mr. O'Donovan was in No. 2?

THE WITNESS.—No. 2.

By Lord Mersey:

3788. Q. That is on the starboard side of the ship?—A. Yes, my Lord.

3789. Q. Now tell me what happened. How far below the water are these stokeholes?—A. The water runs above them sir.

3790. Q. How far below the water are they?—A. I would think, 15 feet.

MR. HILLHOUSE.—The lower edge of the door is 22 feet 6 inches below water.

By Chief Justice McLeod:

3791. Q. You say the water rushed through which stokehole?—A. No. 2 main bunker door.

By Lord Mersey:

3792. Q. Was it coming in in a great body?—A. Oh, a great body, yes; the full volume of the door.

3793. Q. That is what I mean. It was not coming in in small quantity; it came in as much as it could come in?—A. As much as it could come in, my Lord.

3794. Q. Now, that is what happened first?—A. Yes.

3795. Q. What happened next, after you saw this great body of water?—A. When I saw this great volume of water in the stokehole, I ordered the firemen out of the stokehole.

3796. Q. Otherwise they would have been drowned?—A. They would have been if they stayed there, my Lord. I waited a few seconds longer and then went up the forward stokehole, aft of the main. I went aft along the alleyway and I reported to the junior second engineer that there was water coming in the forward stokehole through No. 2 starboard main bunker. I then went back to the same stokehole and when I got back I could see nothing, all lights were out in the stokehole. I went in and stopped the two forward fans. I tried to get at No. 2 fans but I could not do so with the list of the ship; they are further aft than No. 1, so I let those two go. While I was there starboard No. 2 fan was working in the water. I then came out, went aft again and when I got aft of the engine room door the engineer was leaving the engine room.

3797. Q. The engine room being flooded?—A. No, my Lord.

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3798. Q. None of you ever saw any appreciable quantity of water in the engine room?—A. Not that I know of, my Lord. I didn't go down to the engine room.

3799. Q. I thought you said you did.—A. The engine room door, my Lord, that is the top of the engine room. That is where I met the junior second engineer.

3800. Q. You could see down?—A. Yes, I could see down, my Lord.

By Chief Justice McLeod:

3801. Q. You say No. 1 stokehole was also flooded?—A. That was also flooded.

By Lord Mersey:

3802. Q. I am asked to ask you whether it was possible to close the doors leading to No. 1 stokehole, where the water was rushing in?—A. That door is closed from the steerage dining room, No. 2 and 3 stokehole.

3803. Q. From the first class dining room?—A. It was closed from the third class dining room.

3804. Q. Well, was it possible to close that door?—A. Quite possible.

3805. Q. Where the water was rushing in?—A. It may be, I could not say.

3806. Q. But you do not know whether or not it was closed?—A. No, I could not say whether it was closed.

3807. All you know is that the water was rushing through it at full capacity?—A. Do you mean the watertight door, my Lord, or the door of the bunker?

3808. Q. I mean the water-tight door.

By Chief Justice McLeod:

3809. Did you say the water-tight door?—A. The water-tight door between No. 2 and 3 stokeholes.

3810. Q. Was that closed or not?—A. I could not say, sir.

3811. Q. From where did the water rush into the No. 2 stokehole?—A. From the starboard side of No. 2 main bunker; between No. 2 and 3 stokeholes on the tween decks.

3812. Q. Did it go in through this water-tight door?—A. No, sir, through the main bunker door.

Mr. ASPINALL.—I think possibly there may be a little confusion between your Lordships and the witness in respect of the bunker door and the water-tight door.

By Chief Justice McLeod:

3813. Q. It was the bunker door through which the water rushed in?—A. Yes.

By Mr. Haight:

3814. How long have you been in the employ of the Canadian Pacific Railway Company?—A. Six and a half years.

3815. Q. Always in the engine room?—A. Not always.

3816. Q. How long have you been in the engine room?—A. About four years in the engine room and two years and a half in the stokehole—about, I am not sure of the time.

3817. Q. How many moments, according to your calculation, elapsed after the jar of the collision? You went aft and then came back and found the lights and the starboard fan running in the water? Was it a very short interval?—A. About 4 or 5 minutes, sir.

3818. Q. So that within 4 or 5 minutes after you felt the jar, the vessel was listed over so far that you could not get at the starboard fan, which was actually running in the water?—A. Quite so.

3819. Q. The lights were then all out?—A. All out, sir.

3820. Q. Almost immediately after the jar of the collision, as I understand you, water was rushing into your stokehole, to the full capacity of the door?—A. Yes, sir.

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3821. Q. During the eight months that you had been inspecting the steering gear, how frequently was the inspection made?—A. Every day, sir, at sea.

3822. Q. And what does the whole inspection consist of?—A. Have a look at the telemeter on the bridge; the same on the steering gear aft, also have a look at the engine and any valves that want to be tightened up I tighten them up.

3823. Q. As you look at the mechanism in the wheel house, the telemeter is right in the wheel house with the wheel, is it not?—A. Yes, there is also one aft in the steering house as well.

3824. Q. Are there two telemeters on the ship?—A. Yes, there is one on the bridge and one in the steering house, manipulating the control valve of the steam engine.

3825. Q. Do you connect one and disconnect the other, or are both of them working all the time?—A. One on the bridge and one in the steering house are always connected at sea.

3826. Q. So that whichever wheel you turn, whether on the upper bridge or on the lower bridge, it all works the same way?—A. Excuse me, you do not understand what I mean.

3827. Q. Let us understand it a little bit more fully. I do not understand what you call the telemeters, and how they are connected.—A. There is one on the bridge, connected by two copper pipes to another in the steering house. The one in the steering house regulates the control of the steam steering engine.

3829. Q. The regular telemeter system requires everything that you have got on that ship; you have not got a double set?—A. Yes, there are two sets on the *Empress of Ireland*.

3830. Q. Will you please describe, Mr. O'Donovan, just what the telemeter system is? Make it as little technical as you can—the telemeter system.—A. I do not know that I can describe it very clearly.

3831. Q. Well, try.—A. Well, the telemeter on the bridge consists of a cylinder inside of which works a plunger.

LORD MERSEY.—What does the word 'telemeter' mean?

Mr. HAIGHT.—I am sure I do not know. Perhaps the naval architect, Mr. Hillhouse, will tell us.

LORD MERSEY.—No, I want to know the meaning of the word.

Mr. HAIGHT.—Telemotor.

LORD MERSEY.—Is it telemotor?

Mr. HAIGHT.—Yes, telemotor.

By Lord Mersey:

3832. Q. Tell us what this apparatus is.—A. Inside the cylinder works a plunger to which is attached a rack. The man turning the wheel on the bridge forces this plunger up and down the cylinder. Attached to this cylinder are two copper pipes leading to another telemotor in the steering house. As the man shifts the wheel, these pipes are filled with glycerine and water; as the man moves the wheel he forces this plunger down or up, as the occasion may be, and he forces the water through one of these pipes to the telemotor below; causes a pressure and so shifts the telemotor below fore and aft. Attached to this telemotor are levers connected with the control valve of the steam steering engine and according as he shifts the wheel he opens the control valve more and more and shifts the engine either way, port or starboard.

By Mr. Haight:

3833. Q. There is, then, no direct physical connection between the wheel which the man turns and the steering gear which must be moved really to start your steam steering engine going?—A. No.

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3834. Q. You have merely—A. Just to pull the wheel over.

3835. Q. Wait a minute. You have merely a cylinder next the wheel?—A. Yes.

3836. Q. And the turning of the wheel works this valve one way or the other as you pump the glycerine from one side to the other?—A. Yes.

3837. Q. And the glycerine, being pumped into or out of one side of the cylinder in the house below, then works the rods connected with the steam valve?—A. Yes.

3838. Q. If, then, there is anything wrong in the quantity of glycerine in either telemotor, or if there is by any chance any obstruction, your steering gear is partially or totally out of effective use?—A. Partially.

3839. Q. Well, if the glycerine should leak out from either cylinder, it would be totally out of use?—A. No, sir, it just depends on the quantity that leaks out.

3840. Q. If enough leaked out, you would absolutely lose control.

By Lord Mersey:

3841. Q. If it all leaked out, the telemotor would cease to work?—A. Quite, sir.

3842. Q. And the more that leaks out the nearer you get to that point?—A. Yes.

By Mr. Haight:

3843. How much glycerine have you in the upper cylinder, the one next the wheel?—A. I do not know, sir.

3844. Q. Have you never refilled it during the eight months you inspected the apparatus?—A. I pumped her up twice a trip. It doesn't require filling; it is full already. There might be a slight leak one way or the other.

3845. Q. What do you mean by pumping her up? Do you mean that you inject into one or both cylinders some additional glycerine?—A. Yes.

3846. Q. And that is done how often?—A. Twice a trip, once in Liverpool and once in Quebec.

3847. Could you give me an idea of the size of the cylinder next the wheel?—A. About 4 inches, $4\frac{1}{2}$ inches.

3848. Q. Four and a half inches long?—A. Diameter.

3849. Q. In diameter. And how long?—A. I could not say that.

3850. Well, give me some idea. A foot? A yard?—A. About a foot.

By Lord Mersey:

3851. Q. Who makes these instruments?—A. Brown, sir; John Brown, of Edinburgh.

3852. Q. Where does he carry on his business?—A. Edinburgh.

3853. Q. Are there any specifications or descriptions of the apparatus to be found anywhere?—A. I could not say, my Lord.

3854. Q. What?—A. I do not know, my Lord.

3855. Q. Can anyone here tell me whether this apparatus can be bought in Quebec?—A. No.

3856. Q. You do not think it can?—A. No.

By Mr. Haight:

3857. Q. You have a cylinder, then, about a foot long and about $4\frac{1}{2}$ inches in diameter?—A. Yes.

3858. Q. It would contain, then, less than two quarts probably of glycerine, would it not?—A. Probably.

3859. Q. Now, is the cylinder in the lower house of the same size?—A. Yes.

3860. Q. If you should lose a quart or a quart and a pint of glycerine out of the upper cylinder, wouldn't your entire apparatus be out of business?—A. Yes.

3861. Q. You have the pipes which connect the upper cylinder with the lower—through what? They run through the deck straight down, do they, or do they run out across, or how?—A. Through the decks.

O'DONOVAN.

SESSIONAL PAPER No. 21b

3862. Q. Is the lower cylinder directly below the upper cylinder?—A. Yes.

3863. Q. So that the pipes connecting the two cylinders are vertical?—A. Yes.

3863. Q. How long are those pipes?—A. Oh, I could not say that.

3864. Q. Well, how many feet is it approximately from the upper cylinder to the lower?—A. In height or in length?

3865. Q. Give me the approximate idea of the length of the pipe which connects the upper cylinder with the lower?—A. About 500 feet.

By Lord Mersey:

3866. Q. What?—A. About 500 feet, my Lord.

By Mr. Haight:

3867. Q. Do you mean that there is a pipe filled with glycerine which runs practically the length of the ship?—A. Yes.

3868. Q. You have not only a cylinder next the wheel and a cylinder below, but you have also pipes connecting the cylinder below with your steering engine aft?—A. Yes.

By Lord Mersey:

3869. Q. Is that the usual plan?—A. The usual plan, my Lord, as far as I know.

By Mr. Haight:

3870. Q. Now, along what decks or what deck did the long pipes run from the steering house to the steering engine at the stern?—A. I couldn't say.

3871. Q. But you have inspected those pipes; where are they?—A. I inspected the pipes?

3872. Q. Didn't you?—A. No. I inspected the telemotors.

3873. Q. Are not the pipes which extend this long distance from the lower cylinder back to the engine, part of your steering systems?—A. I do not understand your question.

3874. Q. Do I understand that the pipes which run from the lower cylinder back to the engine were never inspected by you during the eight months that you were in charge of the steering gear?—A. No.

3875. Q. So far as you know no one inspected these pipes during the eight months that the duty of inspecting the steering gear is left to you?—A. No.

LORD MERSEY.—Let me ask him this question.

3876. Q. When you inspect the steering-gear do you observe to see whether it is working properly?—A. Yes, my Lord.

3877. Q. And that I suppose is the main part of your inspection?—A. Yes, my Lord.

3878. Q. To see that it is working properly?—A. Yes, my Lord.

3879. Q. When did you last inspect it before this calamity?—A. The day before sailing.

3880. Q. What day was that?—A. Well that was a Wednesday morning....what day did we leave?

3881. Q. Well at all events was it then working properly?—A. Yes, my Lord. Any leak in these pipes that you mention would be shown on the bridge. There is an indicator on the bridge, on the telemotor, which shows if there is any leak in the pipe. If there was any leak in the pipes, it would show on the indicator.

3882. Q. Any leak in the pipes I suppose would cause the apparatus to work improperly? To work badly?—A. Yes, my Lord.

MR. HAIGHT.—Is your Lordship finished and am I now at liberty to go on?

LORD MERSEY.—Yes, yes.

By Mr. Haight:

3883. Q. At what hour on the day you referred to, when the steamer sailed?—
A. The day before sailing, do you mean?
3884. Q. Well that was the day you inspected it. I understood?—A. Yes.
3885. Q. At what hour did you make the inspection?—A. At eleven o'clock in the morning.
3886. Q. The steamer was therefore at her dock?—A. Yes.
3887. Q. So you made your inspection, not while the vessel was under way, and when it was necessary to turn the helm, but when she was lying still at the dock?—
A. Yes, it was done alongside the wharf as it is always done, the day before sailing.
3888. Q. You did not direct your attention at all to the steering gear after you left the dock, when she started upon this voyage which resulted in disaster?—A. No.
3889. Q. Now when you made your inspection on the day before sailing, will you please state, as precisely as you can, exactly what you did?—A. Well I pumped the gear up.
3890. Q. That is you injected some more glycerine?—A. Yes.
3891. Q. How much?—A. She might not take anything at all.
3892. Q. Oh, I know she might not, but I want to know what it did take?—A. I couldn't say.
3893. Q. Did it take some?—A. It may have. I couldn't tell you whether it did or not.
3894. Q. How did you pump it up?—A. Circulated it, got the water running around the pipes right through the telemotor.
3895. Q. Did you have a hand-pump?—A. Yes.
3896. Q. And where does the hand-pump work from?—A. It works from the steering-house.
3897. Q. And do you simply open the stop-cocks and begin to pump?—A. Yes.
3898. Q. You don't know how much is going into the pipe?—A. I couldn't tell you.
3899. Q. And how long did you pump?—A. Usually about ten minutes.
3900. Q. And at the end of the ten minutes what indicated to you the fact that you had pumped in enough?—A. I went up on the bridge and tried the wheel for myself.
3901. Q. Now had you tried the wheel for yourself before you began to pump in?—A. I did.
3902. Q. And as you tried the wheel you reached the conclusion that she needed to be pumped up?—A. No I did not.
3903. Q. Then why did you go and pump her up?—A. It is the usual thing to pump her up in case of the least slackness in the wheel.
3904. Q. Now the valve you had to look at was on the deck above the pump, is that correct?—A. No, the indicator is on the telemotor, on the bridge.
3905. Q. I understood you to say you pumped for ten minutes and went on the deck above to try the wheel?—A. Yes.
3906. Q. Isn't the indicator where the wheel is?—A. Yes.
3907. Q. Then the indicator was not on the same deck as your pump?—A. No.
3908. Q. And after you had first tried the wheel and made up your mind at least that you were going to pump her up, . . . that is right isn't it?—A. Yes.
3909. Q. You then went below and pumped for ten minutes before you went back into the steering-house above to see if you had pumped her up enough?—A. Yes.
3910. Q. Now, when had you pumped her up last before this Wednesday you speak of?—A. The day before leaving Liverpool.
3911. Q. How many days was that?—A. About fourteen days.
3912. Q. That is, it was about fourteen days before this since you had pumped her up last?—A. Oh, no, . . . yes, about fourteen days.

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3913. Q. About 14 days before this Wednesday on which you pumped for about ten minutes, you had pumped her up in Liverpool?—A. Yes.

3914. Q. Can you give me an idea of the size of the valve on the pump which you are working?

The WITNESS.—The valve on the pump?

COUNSEL.—Yes.

The WITNESS.—It might be half an inch in diameter, I don't know exactly.

LORD MERSEY.—I don't much like this speculative evidence. Do you know these things? You say, it might be half an inch, I think, I don't know. . . . now I don't know what that means.

WITNESS.—I don't know the exact size, my Lord.

LORD MERSEY.—Then you had better say you don't know, because you may be misleading us altogether.

By Mr. Haight:

3915. Q. Is it fresh water or water and glycerine that you pump into the cylinder?—A. Water and glycerine.

3916. Q. That is you have a tank of the mixture somewhere?—A. Yes.

3917. Q. And your pump connects with that tank?—A. Yes.

3918. Q. Now, what is the size of this long 500-foot pipe which you say leads from the wheelhouse back to the stern? What is the diameter of that pipe?—A. I don't know; I have never measured it.

3919. Q. Have you seen that pipe?—A. I have.

3920. Q. Can you give me an idea whether it is one inch or two inches in diameter?—A. About half an inch.

3921. Q. What is the pipe made of?—A. Copper.

3922. Q. Is it run along the deck or where?—A. I couldn't say.

3923. Q. Is it under a deck or on a deck—you don't know which?—A. Under a deck.

3924. Q. So this pipe runs under a deck?—A. Yes.

3925. Q. But you don't know what deck it runs along?—A. No, it runs through several decks.

3926. Q. But in any event, as I understand you, the man at the wheel who actually obeys the orders from the bridge, not only pumps the glycerine from one side to the other of the cylinder immediately at the wheel, but he is also forcing the glycerine down through the pipe to the cylinder below, and moreover he is also forcing a column of glycerine nearly 500 feet long, which leads back to the stern, to the steering engine?—A. Yes.

3927. Q. He must turn his wheel hard enough to move the glycerine in that entire line of piping?—A. Yes, sir.

By Lord Mersey:

3928. Q. Is this the usual apparatus on board ocean-going steamers?—A. Yes, my Lord.

By Mr. Haight:

3929. Q. What other boats have you been on which were equipped with the tele-motor system?—A. This is the first ship I have been on that had it.

3930. Q. So your experience is limited to this particular ship so far as the tele-motor goes?—A. Yes, sir.

3931. Q. What was the difference you noticed, Mr. O'Donovan, between the first time you tried your wheel on this Wednesday before the accident, before you pumped
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for the ten minutes that you told us about, and the feeling of the wheel after you had pumped for ten minutes?—A. There was none.

3932. Q. No difference at all?—A. None.

Mr. HAIGHT.—That is all, my Lord.

LORD MERSEY.—Now, Mr. Aspinall, have you any questions?

Mr. ASPINALL.—No questions, my Lord.

LORD MERSEY.—Mr. Newcombe, do you desire to cross-examine this witness?

Mr. NEWCOMBE.—No, my Lord.

By Lord Mersey:

3933. Q. Can you tell us where in your opinion this ship was struck?—A. Somewhere between No. 2 and No. 3 stokeholds, my Lord, I don't know where, that is I couldn't say about the exact position.

3934. Q. You couldn't do that?—A. No, my Lord.

Mr. HAIGHT.—My Lord, may I say here that I am told now that we may be able to-morrow to give the court some pretty definite testimony on that point from our ship. I find that one of our deckhands, or the look-out, or one of the seamen, picked up from our deck, or somewhere on our bow, after the collision, a number-plate from one of the staterooms of the *Empress*. I don't know whether he found it on the starboard side, or the port, or where.

LORD MERSEY.—That may throw some light upon it.

Mr. HAIGHT.—It may come pretty close to localizing the position, and I understand we will have it here to-morrow.

By Lord Mersey:

3935. Q. Now, then, can you tell me this.....can you tell me whether water was entering through the side of the bunkers aft?—A. There is an engineer here at present can tell you all about that.

3936. Q. Can you answer that?—A. No, my Lord, I cannot answer.

By Mr. Aspinall:

3937. Q. And who is that engineer that you say can tell us about that?—A. Mr. McEwen.

LORD MERSEY.—Mr. McEwen has been in the box already.

Mr. NEWCOMBE.—That is another man, my Lord, a sailor. The one referred to now is a junior fourth engineer.

LORD MERSEY.—Then let him be called.

JAMES MCEWEN, engineer, *Empress of Ireland*, Sworn.

By Mr. Aspinall:

3938. Q. Were you an engineer on the *Empress of Ireland* at the time of this disaster?—A. I was.

3939. Q. What position did you hold?—A. Junior fourth engineer.

3940. Q. I am afraid you have just come out of the hospital haven't you, Mr. McEwen?—A. I have.

3941. Q. Well just do your best, will you—do you hold a first-class certificate?—A. I do.

3942. Q. Were you on duty at the time of the accident?—A. I was.

3943. Q. Where were you on duty?—A. In the aft section of the boilers.

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By Lord Mersey:

3944. Q. That means the aft boiler space, I suppose?—A. Yes, my Lord.

3945. Q. Would you like to sit down?—A. No, my Lord.

By Mr. Aspinall:

3946. Q. What called your attention to the fact that there was a collision?—A. The crash.

3947. Q. There was a crash?—A. Yes.

3948. Q. Did you see anything after the crash?—A. When I walked through into No. 3 stokehold, I could see nothing for coal dust.

3949. Q. I understand that you did walk through into No. 3 stokehold?—A. Yes.

3950. Q. Was that forward of where you were standing or aft?—A. Forward.

3951. Q. You walked forward?—A. Yes.

3952. Q. And you saw nothing?—A. I could see nothing for coal dust.

3953. Q. Did you later on see something?—A. I walked over to the starboard side.

3954. Q. Yes?—A. There was something blowing pretty bad there.

3955. Q. Something blowing you say?—A. Yes, sir.

3956. Q. What do you suggest was blowing, or did you find out?—A. Yes, there was steam or feed-water.

3957. Q. In this space?—A. Yes.

3958. Q. Did you see anything more?—A. I walked over to see if I could see what it was.

3959. Q. Yes?—A. And the water poured down out of the bunker.

3960. Q. You saw water pouring down out of the bunker?—A. Yes.

3961. Q. Well, what was it coming through, the side of the bunker or through the door in the bunker?—A. Through the bunker door.

3962. Q. And was it coming in a large volume through this bunker door?—A. It was coming down like a wall of water.

3963. Q. And did you see anything more?—A. I didn't wait to see. I ran for my life, that's what I did.

3964. Q. Where did you run to?—A. I ran to the engine room.

3965. Aft?—A. Yes.

3966. Q. And where did you get to?—A. Under the engine room platform.

3967. Q. Did you get into the engine-room?—A. Yes.

3968. Q. And how did you get into the engine room?—A. Through the path between the engine room and.....

3969. Q. Is there a sort of covered passage there?—A. Yes.

3970. Q. And having got into the engine room you found yourself where?—A. On the starting platform.

3971. Q. And what did you do then?—A. I informed the senior engineer that the stokeholds were flooded.

3972. Q. And having informed him of that what did you next do?—A. By this time the water was pouring in.....it was coming into the engine room.

3973. Q. Well now I want you tell me where it was coming into the engine room from?—A. It was coming from the stokehold.

3974. Q. And through what was it coming into the engine room?—A. Through the door.

3975. Q. Where is the door you speak of?—A. At the end of the passage leading into the stokehold.

3976. Q. At the end of the passage there is a door between the engine-room space and the boiler-room space?—A. Yes.

3977. Q. Is that one of the water-tight doors?—A. It is.

3978. Q. Where is that door operated from?—A. From the top of the platform in the engine-room.

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3979. Q. Well now, when you saw this inrush of water, was there any attempt made, so far as you know, to shut that door?—A. Yes.

3980. Q. Now will you tell me what was done with regard to shutting that door?—A. As soon as I spoke about the stokehold being flooded the order was given to shut the door.

3981. Q. By whom was that order given?—A. By Mr. Brennan or Mr. Liddell, or some engineer on the platform.

3982. Q. And to whom was the order given?—A. To the greasers.

3983. Q. What was done after that order had been given and received?—A. The door started to come down right away.

3984. Q. Were there two men there, two greasers?—A. Two greasers.

3985. Q. Did they obey the order?—A. Yes.

3986. Q. And you saw the door coming down?—A. I did.

3987. Q. And was it closed?—A. It was closed.

3988. Q. And did that prevent the rush of the water into the engine room space?—A. It stopped it altogether.

3999. Q. What did you do next or see?—A. I went up the engine room ladder.

4000. Up to where?—A. I went up the engine-room ladder with the intention of going around forward to see how the forward section of the boilers—to see how the engineer of the forward section of the boilers was getting along.

4001. Q. Did you get into the forward section?—A. No, I met him coming along the alley-way.

4002. Q. You met whom?—A. Mr. O'Donovan.

4003. Q. And what did you do after meeting him?—A. He told me he was flooded out.

4004. Q. When he told you that, what information did it convey to you—that the forward space was flooded out?—A. Yes.

4005. Q. Which part did you think he referred to?—A. The two stokeholds forward.

4006. Q. After he gave you that information what did you do then?—A. We went down—somebody sang out to shut the water-tight door.

4007. Q. Do you know who that was?—A. No.

4008. Q. It was a voice, which you could not identify?—A. Yes.

4009. Q. And what did you do after you heard that?—A. I went down in the steerage with the intention of shutting—

4010. Q. First of all, in what part of the steerage did you go?—A. I went into the steerage dining-room.

4011. Q. Yes, we have heard of that, the third-class or steerage dining-room?—A. Yes.

4012. Q. What is there in that steerage dining-room which will enable you to shut water-tight doors?—A. The gearing for shutting the door.

4013. Q. The gearing that operates a water-tight door?—A. Yes.

4014. Q. And where is the water-tight door which that gearing operates?—A. Between the two boiler-rooms.

4015. Q. Did you operate that gear?—A. No.

4016. Q. Why was that?—A. I couldn't get down to it.

4017. Q. Why couldn't you get down?—A. The water.

4018. Q. Where was this water you speak of which prevented you getting into the third class dining-room?—A. In the passage.

4019. Q. Which passage?—A. In the deck below.

4020. Q. In the deck below the floor of the third-class dining-room?—A. The same deck, but the doors were below where the working alleyway is.

4021. Q. The same deck as the third-class dining-room?—A. Yes.

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4022. Q. Was this water forward of this third-class or steerage saloon, or aft of it—this dining-room?—A. It was in the alleyway aft of the dining room.

4023. Q. This alley-way is aft?—A. Yes.

4024. Q. And that prevented you getting into this third-class saloon?—A. Yes.

4025. Q. As far as you know did anybody ever succeed in getting into the third-class saloon to operate this machinery for shutting the doors?—A. No.

4026. Q. You think not?—A. No.

4027. Q. What did you do after you found you couldn't get into the third-class dining-room?—A. I went down to the engine-room again.

4028. Q. You returned to the engine-room?—A. Yes.

4029. Q. What did you find when you got back there?—A. I found all the engineers on the platform.

4030. Q. The men were still at their positions?—A. Yes.

4031. Q. Were the lights on then or were they out?—A. Burning very low.

4032. Q. Did you do anything after you got back to the engine-room?—A. No.

4033. Q. Did you remain there?—A. Yes.

4034. Q. For how long—it was a matter of a few moments, I suppose?—A. Yes.

4035. Q. And then what next happened?—A. We were ordered up.

4036. Q. Somebody gave an order to clear out?—A. Yes.

4037. Q. Had the ship listed a good deal by this time?—A. Yes, a great deal.

4038. Q. The ship had listed a great deal and you were ordered to clear out?—A. Yes.

4039. Q. And then did you and the rest of the men leave the engine-room?—A. We did.

4030. Q. Where did you go to?—A. I went to my room.

4041. Q. Where is your room—A. On the top of the engine-room.

4042. Q. Did you go to get something there?—A. I put on a jacket.

4043. Q. And having got the jacket did you then go out?—A. Yes.

4044. Q. Where did you go, to the boat deck?—A. Along the alleyway to try and get on deck.

4045. Q. Did you get to the deck?—A. After a great deal of trouble. The decks by this time were nearly perpendicular.

4046. Q. And you got up eventually?—A. Yes.

4047. Q. And eventually were saved?—A. Yes.

4048. Q. Is that all you know about it which will throw any light on the matter?—A. I believe so.

By Mr. Haight:

4049. Q. As I understand you, Mr. McEwen, the point of contact was forward of the position where you stood at the time the jar came?—A. Yes.

4050. Q. Were you thrown off your feet or seriously thrown off your equilibrium when the jar came?—A. I was just shaken a bit.

4051. Q. The steerage dining-room where the gear was connected with one of those water-tight doors, was that above the normal water line of the ship, or below it?—A. Above the normal water line.

4052. Q. So that by the time you got on to the level of the steerage dining-room, the steamer had filled so rapidly that the deck of the dining-room was flooded, and there was so much water there you couldn't get even to the gear?—A. One side of it.

4053. Q. Well, is this gear amidships or on the side?—A. Amidships.

4054. Q. And the passage from which you would work the gear was amidships?—A. Yes.

4055. Q. And in that vessel there was already so much water that you couldn't get to the gear?—A. Yes.

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4056. Q. How high is the gear from the floor?—A. A few feet.

4057. Q. About three feet, I suppose?—A. Yes, a nice height.

4058. Q. So there were more than three feet of water already in that passage by the time you could get there?—A. No.

By Lord Mersey:

4059. Q. Well, what height was the water with reference to your body . . . were you standing in water up to there (indicating)?—A. No, the deck at this time had a big list.

4060. Q. But this steering gear, as I understand it, was amidships?—A. Yes.

Mr. HAIGHT.—The steerage dining-room level was under water, I understand.

LORD MERSEY.—I understood you were asking him whether the water prevented him turning this gear?

Mr. HAIGHT.—Yes, my Lord.

LORD MERSEY.—And you were asking him how high the water was?

Mr. HAIGHT.—Yes, my Lord.

LORD MERSEY.—Well, if he was up against the gear, where there were three or four feet of water, he must have been standing in three or four feet of water.

Mr. HAIGHT.—I supposed he was.

By Lord Mersey:

4061. Q. Were you ever standing in three or four feet of water on that ship?—A. I stopped before I could get to the gear.

By Mr. Haight:

4062. Q. I understood you to say that because of the water you couldn't get to the gear. Perhaps I misunderstood you?—A. Yes, because of the water.

4063. Q. Will you please explain how it was that the water kept you from the gear and how much water there was in the vicinity of the gear?—A. The deck was at a big list, and walking along a deck with a big list, and with a few inches of water upon it, is almost impossible.

4064. Q. So that the passage where the gear was had not been flooded then?—A. There was water in the alleyway.

By Chief Justice McLeod:

4065. Q. That is the alleyway leading to the steerage dining room?—A. Yes.

By Lord Mersey:

4066. Q. I wish we could see on a plan where this alleyway is. It is an alleyway, as I understand, on a level with the dining room of the steerage, is that so?—Do you follow what I mean. . . . when you walk along this alleyway, do you get on the floor of the dining-room of the steerage?—A. Yes.

4067. Q. Now, another thing I want to know, is this alleyway and is the dining room called the dining room of the steerage, above the top of the water-tight compartments?—A. Yes.

4068. Q. Are they above the water-tight compartment bulkheads?

Mr. ASPINALL.—Yes, my Lord, I believe so.

LORD MERSEY.—Then there was water which had run over the top of the water-tight bulkheads. And where would it flow now?

Mr. ASPINALL.—My Lord, it is then absolutely at large to flow anywhere, there is nothing to confine it.

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LORD MERSEY.—But what I mean is this, the moment the water gets above the level of the bulkheads, there is nothing to prevent that ship going to the bottom?

MR. ASPINALL.—No, my Lord, the water then is free to flow wherever it may.

LORD MERSEY.—And am I to understand this witness to say that he saw water which must have been above the top of the water-tight bulkheads, and must therefore have been flooding the whole ship?

MR. ASPINALL.—As I understand his evidence, the answer is, yes, on that side of the ship.

By Lord Mersey:

4069. Q. Have you been listening to what I was saying?—A. Yes, my Lord.

4070. Q. Now, don't say so unless you are quite sure, but is what I am saying right?—A. I am not quite sure about the steerage dining room being above the water-tight bulkheads.

LORD MERSEY.—Well some one can tell us that.

MR. HILLHOUSE.—The steerage dining room floor is not above the top of the water-tight bulkheads my Lord.

LORD MERSEY.—How far is it below?

MR. HILLHOUSE.—Eight feet.

LORD MERSEY.—So I am to understand that it is eight feet below the top of the water-tight bulkheads?

MR. HILLHOUSE.—Yes, my Lord.

By Lord Mersey:

4071. Q. Have you been following this, Mr. McEwen?—A. Yes, my Lord.

4072. Q. Now you say that there was water in the alley way, which I am told is eight feet below the top of the water-tight bulkheads?—A. There was.

LORD MERSEY.—Well, the alley-way is eight feet below the top of the water-tight bulkheads, that is the floor of the alley-way, and the water was coming in there. Now as soon as it got up eight feet higher, it would go over the top of the bulkheads.

MR. HILLHOUSE.—Yes, my Lord.

LORD MERSEY.—And the moment the water reached the top of the bulkheads this ship was a lost ship?

MR. HILLHOUSE.—Yes, My Lord.

LORD MERSEY.—There was no hope for her at all?

MR. HILLHOUSE.—No, my Lord.

LORD MERSEY.—And this man has just stated that very soon after the impact he found water in the alley-way which was only eight feet below the top of the bulkheads—as soon as the water in the compartment rose another eight feet there was an end of the ship.

MR. HILLHOUSE.—Yes, my Lord.

LORD MERSEY.—Well, Mr. Haight, have you finished with Mr. McEwen?

MR. HAIGHT.—I have, my Lord.

LORD MERSEY.—We are now on a part of the case which I do not understand very well, and I am relying more or less upon you, gentlemen.

MR. ASPINALL.—I am relying on Mr. Newcombe for this part of the case. He undertook it yesterday, if your Lordship will remember.

LORD MERSEY.—Well, I have one more question to ask the witness.

4073. Q. Can you give us any idea of the list of the steamer? I don't want you to say so unless you can remember it, but if you can remember it, I wish you would tell us?—A. I cannot.

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CAPTAIN MURRAY, harbour master, Quebec, sworn.

By Mr. Meredith:

4074. Q. Captain Murray, what position do you occupy in Quebec?—A. I am the Harbour Master.

4075. Q. Have you ever been captain of the *Empress of Ireland*?—A. Yes.

4076. Q. For how many voyages?—A. I was in the ship three voyages.

4077. Q. During the time you were master of that ship, had you occasion to ascertain within what time you could stop her when she was going at full speed ahead?—A. Yes.

4078. Q. Did you make an actual test?—A. Yes.

4079. Q. What time did it take you to stop her?—A. About two minutes and fifteen seconds.

4080. Q. Now would you please state to the Court about the steering qualities of that vessel?—A. She steers very well.

By Mr. Haight:

4081. Q. Where was the test made, Captain Murray?—A. At Liverpool, making the pilot at Liverpool.

4082. Q. When you were taking on your pilot at Liverpool?—A. Yes.

4083. Q. Where do you take the pilot on at Liverpool? I mean, just what is the precise place where the pilot-ship is located?—A. At the bar-ship.

4084. Q. That is how far from the river?—A. About thirteen miles.

4085. Q. What is the depth of water there?—A. About ten fathoms outside the bar where we stopped. I say about ten fathoms but it may be eight.

4086. Q. How often have you entered the Mersey river, Captain Murray?—A. Well I made 190 trips on the *Empress of Britain*.

4087. Q. Now is it usual in your navigation to run your steamer full speed, at seventeen knots, until you get within a few lengths of the pilot-ship, and then order your engines from full speed ahead to full speed astern?—A. No it is not usual.

4088. Q. Why was it done on this particular occasion?—A. Well I will tell you. About two years ago I was unfortunate enough to sink a ship in the gulf of St. Lawrence, the *Helvetia*.

4089. Q. You were in what ship at that time, Captain?—A. The *Empress of Britain*. And at the inquiry it was stated that the ship was moving half-speed, about 14 knots, just before the collision, and the engines were going astern before the impact about one minute and forty-five seconds. And His Lordship the Judge, Sir Samuel Evans, asked me what speed I thought the ship was making when she struck the *Helvetia*, and I said about three knots. His Lordship seemed to think that was a very short time in which to reduce speed from 13 or 14 knots to three. Well, on this particular voyage to Liverpool, when we made this test, there was one of the junior counsel on board, Mr. Bowles, and I brought him on the bridge and showed him what I could do. That is the reason the test was made. I made that test, so he could tell Sir Samuel the way these ships work.

4090. Q. You were on that particular occasion endeavouring to see how fast it was possible to stop your ship from full speed ahead to full speed astern? If you threw her absolutely to full open astern from full open ahead?—A. Well that was the test, yes, I suppose.

4091. Q. That is, you wanted to stop her as soon as you possibly could?—A. I just rang full speed astern, and they got the order and carried it out.

4092. Q. You were endeavouring to show, by a practical demonstration, that your statement to his Lordship was not an exaggeration?—A. Yes.

4093. Q. Now when in normal course there is absolutely no desire to demonstrate what is possible, and your only object is, so far as the engineer knows, to stop his

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engines and put them astern, in the ordinary course he does not, when you simply ring the telegraph full speed astern, throw his reversing gear and give her full steam astern in three or four seconds, does he?—A. Well I think he carries out the order given.

4094. Q. Well, Captain Murray, you have been at sea how long?—A. Thirty-five years.

4095. Q. You know, do you not, that there is no strain so severe upon a steamer's engines as to put them from full speed ahead to full speed astern without any interval?—A. Quite so.

4096. Q. That is the most severe test that engines can possibly be subjected to?—A. Yes.

4097. Q. Unless your engines are exceedingly well made it will wreck them, will it not?—A. No.

4098. Q. What will it do?—A. It wouldn't wreck the *Empress of Britain's* engines.

4099. Q. Well, take the ordinary vessel?—A. No, I don't think so.

4100. Q. Where does the strain show?—A. You had better ask an engineer that.

4101. Q. Don't you know?—A. It will strain the engines, but I can't tell you where it would strain them.

By Lord Mersey:

4102. It is not a seamanlike thing to do, is it?—A. Well, it all depends on the occasion, my Lord, it may be necessary.

4103. Q. Yes, I quite understand that, but unless there is some particular reason for doing it, some very imperative reason for doing it, you wouldn't do it?—A. No, sir.

By Mr. Haight:

4104. Q. Do you know by precise observation how many revolutions your engines were making when you made this experiment?—A. About 72.

4105. Q. I asked you if you knew by precise observation . . . did the engineer or some one else note the exact revolutions and report to you?—A. No, they did not report to me.

4106. Q. Then you only know in a general way the speed of your engines at the time you ordered them astern?—A. Yes.

By Lord Mersey:

4107. Q. And you think it was about 72?—A. Yes, my Lord, I think so.

By Mr. Haight:

4108. Q. Do you know by observing the log or by taking observations from point to point what speed you were making through the water?—A. We were making perhaps about—

4109. Q. I mean do you know by precise observation?—A. Well, it was flood tide at the time, a little flood tide.

4110. Q. But through the water?—A. She would be making about eighteen and a half or eighteen and three-quarters knots.

4111. Q. That is over the ground?—A. Yes.

4112. Q. What was the strength of the tide?—A. Possibly a knot.

4113. Q. You think she was making about seventeen and three-quarters knots herself?—A. Yes, herself.

4114. Q. Through the water?—A. Yes, sir.

4115. Q. How did you get that information, Captain Murray?—A. Running full speed we generally make eighteen knots at 73 revolutions. And as far as I know she was running full speed. I didn't ask the engineer the number of revolutions he was making.

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4116. Q. That is without knowing your revolutions you are assuming them to be 73? And on that assumption you base your judgment of the speed?—A. And by the distance we ran from the last point.

4117. Q. But my question was, did you make any precise observation to show your precise speed through the water when your engines were ordered full speed astern?—A. No more than I knew she was running full speed ahead, that is all.

4118. Q. You knew it without having demonstrated it by any precise observation of any kind?—A. Well, from the distance we had run from the last point.

4119. Q. What was the last point?—A. Point Lyness.

4120. Q. How far away was it?—A. About 40 miles.

4121. Q. And at what hour had you left that point?—A. I couldn't tell you now.

4122. Q. How many hours had elapsed from the time you left Point Lyness until you put your engines astern?—A. I couldn't tell you now.

4123. Q. You did not precisely figure that out?—A. No, I didn't think it necessary.

4124. Q. Did you precise it exactly?—A. I don't know what you are trying to get at.

LORD MERSEY.—What Mr. Haight wants is your answer to that question. You need not mind what he is trying to get at.

A. I don't quite understand the question, my Lord.

By Mr. Haight:

4125. Q. Did you in any way make a precise calculation by actual inspection of anything, as to what your speed was?—A. No, I did not inspect anything. I didn't ask any questions. I knew by the telegraph she was running full speed and that was quite sufficient.

4126. Q. And the mere fact that the telegraph stood at full speed was the basis of your judgment that she was making eighteen and three-quarters knots?—A. Yes.

4127. Q. Do you know what the draft of your steamer was at the time?—A. Well, probably about—

4128. Q. Do you know what it was?—A. No, not at the present moment.

By Lord Mersey:

4129. Q. Did you know then?—A. Well, we generally have the same draught from Quebec to Liverpool. She was drawing about 26 feet 6 inches aft.

By Mr. Haight:

4130. Q. Twenty-six feet six inches aft?—A. Yes.

4131. Q. And forward?—A. About twenty-four feet forward.

4132. Q. Now, what method did you adopt to show how many lengths the vessel would run, or did you try to show that?—A. We threw a box over the side and just watched the box.

4133. Q. You threw the box over the side when you first ordered the engines astern?—A. Yes.

4134. Q. And from what point was the box thrown over?—A. On the port side of the bridge.

4135. Q. At the level of the bridge?—A. Yes.

4136. Q. And then you allowed the box to drift astern?—A. Yes.

4137. Q. And you guessed at the distance?—A. Yes.

4138. Q. Now, is it not usual when you are making a test of that nature to have a man at the extreme bow ready to drop a buoy overboard, and have buoy after buoy dropped as each buoy in turn reaches the stern of the ship?—A. Well, I was not making a test of the distance in which she would stop but just a test of how long she took to stop.

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4139. Q. Then why did you need the box at all?—A. I threw the box overboard just for my own information to see how far I thought she would stop in.

4140. Q. Then the distance the ship would run was no part of your experiment?—A. No.

4141. Q. Will you now tell me precisely how you formed a judgment of the fact that your vessel was absolutely dead stopped?—A. I looked over the side.

4142. Q. And you looked at the water?—A. Yes.

4143. Q. And your bridge is how many feet above the water?—A. The deck was fifty feet at that time.

4144. Q. And you didn't see the water rippling at your side?—A. No, she was stopped.

By Mr. Newcombe:

4145. Q. Captain Murray, I don't know very much about working engines. . .

LORD MERSEY.—If you carry on a conversation with the witness in this tone, Mr. Newcombe, we do not derive any benefit from your observations.

Mr. NEWCOMBE.—I am sorry, my Lord.

4146. Q. Have you any signal down from the bridge to the engine-room to indicate that you wish the engineer upon receiving an order to reverse full speed astern to do it in any particular way?—A. Yes.

4147. Q. That is, if as my learned friend suggests it might be done, by turning the lever all the way around at once, and absolutely in one operation putting the engines from full speed ahead to full speed astern, you could indicate that you want it done that way by a signal from the bridge to the engine-room, can you?—A. Yes.

4148. Q. Now, Captain Murray, did you see the *Empress of Ireland* when she left Quebec on her last voyage—A. Yes.

4149. Q. Can you tell me exactly her draught?—A. I couldn't tell you. I have it in my books in the office, but I couldn't tell you at the moment.

By Lord Mersey:

4150. Q. Can you tell me this, Captain Murray, how long would it take to get up your full speed of 17 knots, the vessel beginning from practically a standstill?—A. About half an hour, my Lord.

LORD MERSEY.—Do you want to ask any questions, Mr. Aspinall?

Mr. ASPINALL.—No, thank you. Now, my Lord, that is all the evidence I propose to call.

Mr. HAIGHT.—Might I put another question to Captain Murray?

4151. Q. Would you please tell me what this special signal to the engine-room is about which you were asked a moment ago?—A. We give a double ring if we wish them to go full speed astern as quickly and as much as they can. we give two rings.

4152. Q. When you are doing anything extraordinary in that way, you give the two rings?—A. Yes.

4153. Q. When you were making your experiment, you gave the two rings?—A. No, I did not then. If we wished them to go astern quickly and give all the power they have we ring twice.

LORD MERSEY.—Is that all the evidence you propose at present to call on behalf of the *Empress of Ireland*?

Mr. ASPINALL.—It is.

Mr. NEWCOMBE.—Now, my Lord, there are a number of men of the middle watch of the *Empress*, who have not been called. I have their names here. I am not instructed that they can give any information of value, but they are here, with one exception, I understand, and if your Lordship would like to hear the statements of these witnesses I will call them.

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LORD MERSEY.—I cannot tell whether I should like to hear them or not. I have not the least idea what it is.

Mr. NEWCOMBE.—There are eleven I think in all, able seamen, ordinary seamen, and three assistant stewards.

LORD MERSEY.—I thought you said there was one?

Mr. NEWCOMBE.—No, My Lord, I said there were a number. I said there was one of that watch who is not available. He got away.

LORD MERSEY.—Then he is out of it?

Mr. NEWCOMBE.—Yes, my Lord, he is not available.

LORD MERSEY.—For that we may be thankful. Can these men give us any information which we have not had already?

Mr. NEWCOMBE.—I do not know, my Lord, but I am inclined to think they cannot.

LORD MERSEY.—There are a great many people in Quebec at this time who are in the same position, namely that they cannot give us any information about this matter, and we do not propose to call them. Why do you tell us that you have a number of witnesses here who can tell us nothing about it?

Mr. NEWCOMBE.—Because, my Lord, they constituted the middle watch of the ship.

LORD MERSEY.—What has the middle watch got to do with it?

Mr. NEWCOMBE.—If your Lordship thinks they have nothing to do with it, why I do not wish to call them.

LORD MERSEY.—Have you any statements that they have made?

Mr. NEWCOMBE.—I have not, but I am told that they can add nothing to what has been said.

LORD MERSEY.—Do you think that you want them, Mr. Haight?

Mr. HAIGHT.—My Lord, I haven't the slightest idea. If my learned friends would allow us to see the men and put a few questions to them.

LORD MERSEY.—Do you want them to file in front of you so that you can have a look at them?

Mr. HAIGHT.—No, my Lord, I certainly do not care about having a look at them, but if we could see their statements it would help us to decide whether we wished to examine them or not.

LORD MERSEY.—But I understand they have made no statements.

Mr. HAIGHT.—Not to Mr. Newcombe, but to the attorneys for the Canadian Pacific Railway, I am sure they have.

LORD MERSEY.—Have they to you, Mr. Aspinall?

Mr. ASPINALL.—Yes, my Lord, some of them have made statements to Mr. Holden, and we will certainly let Mr. Haight have a copy of the statements that they have made to Mr. Holden.

LORD MERSEY.—Very well. Will that do for you, Mr. Haight?

Mr. HAIGHT.—Absolutely. I will just glance over the statements.

Mr. ASPINALL.—We will show Mr. Haight the statements that these witnesses have made, and if he desires to have any called, I dare say he will let me know after lunch which he desires.

Mr. HAIGHT.—If Mr. Holden will just indicate who the men are that he has here, I will just glance through the statements

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Mr. ASPINALL.—Mr. Holden is fully possessed of the information and I am sure he will give it.

Mr. NEWCOMBE.—Two are night watchmen and assistant stewards, and without knowing what they have stated I think it will be interesting to have them called. They are the only two surviving night watchmen who were on the deck.

LORD MERSEY.—Have you taken any statements from these two men, Mr. Holden?

Mr. HOLDEN.—Yes, my Lord.

LORD MERSEY.—You will give these statements to Mr. Haight and let him exercise his judgment as to whether it is worth while to call them, because I do not want to take up time with a number of useless things. Now, what is the next thing to be done?

Mr. NEWCOMBE.—I understand that my learned friend, Mr. Haight, will call the balance of the watch from his ship.

Mr. HAIGHT.—I have two witnesses from the *Alden*, your Lordship, the witnesses of whom I spoke yesterday, and if your Lordship will permit I would like to examine them first so that they may return to their steamer.

LORD MERSEY.—Very well.

Mr. HAIGHT.—My associate, Mr. Griffin, will examine them.

ODIN SABJE, 2nd mate, s.s. *Alden*.

By Mr. Griffin:

4154. Q. Are you the second mate of the steamship *Alden*?—A. Yes.

Mr. GRIFFIN.—My Lord, this witness speaks English to some extent, and I would suggest that we have an interpreter sworn so that we may be able to use him if it becomes necessary.

LORD MERSEY.—Very well.

PETER ANDREW JENSEN, sworn as interpreter.

4155. Q. You say you are the second mate of the steamship *Alden*?—A. Yes.

4156. Q. And you have been at sea I understand, about 14 years?—A. Yes.

4157. Q. And you have been second mate of the *Alden* about four years?—A. Yes.

4158. Q. During that period how many trips have you made up the St. Lawrence river?—A. I couldn't tell you.

4159. Q. Well have you been up the St. Lawrence more than once?—A. I have been four times up.

4160. Q. You have held a chief officer's certificate since 1906, is that right?—A. Since 1906.

4161. Q. On the 28th of May last where was your vessel bound?—A. To Montreal.

4162. Q. On the evening of that day, during what hours did you stand watch?—A. From ten minutes past seven to twelve midnight.

4163. Q. During that time were you on the bridge of your vessel?—A. Yes.

4164. Q. Was there also a pilot in charge of the vessel?—A. Yes.

4165. Q. And you had a look-out and a man at the wheel?—A. Yes.

4166. Q. Did you pass the steamship *Empress of Ireland* that night?—A. Well, we passed a steamer and the pilot told me it was the *Empress of Ireland*.

4167. Q. Describe the appearance of the steamer that you refer to?—A. Two funnels and a black top.

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4168. Q. Could you tell whether it was a passenger steamer or not?—A. Yes, I could see that it was a passenger steamer.

4169. Q. At what point in the river did you pass her?—A. About six points off Cape Dogs.

4170. Q. You were bound up and she was bound down?—A. Yes.

4171. Q. Had you reached Cape Dogs when you passed her?—A. No.

4172. Q. You say that she was about six points off Cape Dogs . . . where with reference to Cape Dogs did you pass the steamship?—A. We kept Cape Dogs six points on the starboard bow.

4173. Q. At the time you passed her?—A. Yes.

4174. Q. At what hour did you pass the *Empress of Ireland*?—A. About twenty minutes after ten o'clock, Sydney time.

4175. Q. Your ship was carrying Sydney time?—A. Yes.

4176. Q. And about how far away did you see the *Empress*?—A. Eight or ten miles off.

4177. Q. Was the night clear?—A. Clear.

4178. Q. What was the first coloured light that you saw on board the *Empress*?

LORD MERSEY.—Can't we get to the point.

Mr. GRIFFIN.—I am just coming to it, my Lord.

LORD MERSEY.—I think you are a long time.

By Mr. Griffin:

4179. Q. What was the first coloured light you saw on board the *Empress*?—A. The two masthead lights.

4180. Q. But what was the first coloured light that you saw?—A. Red.

4181. Q. From that time on did you notice anything with reference to the navigation and steering of the *Empress* as the vessels approached?—A. She was swinging, steering badly down the river.

4182. Q. You say you saw her red side-light, and will you please describe what changes if any you noticed in her lights as she approached you?—A. First I saw the red, and then I saw both lights, and then I saw only the green one.

4183. Q. And then?—A. Both.

4184. Q. And after that?—A. Red.

4185. Q. How many times did she change from red to green in that manner?—A. Between five and seven times.

4186. Q. Did you make any change in your helm?—A. I gave a port helm.

4187. Q. About how much?—A. Between one and a half and two points.

4188. Q. State whether the steering of the *Empress* as she approached you caused you to fear a collision?—A. Yes, I was afraid. I was just going down to call the Captain.

4189. Q. On which bow of your vessel was the *Empress* as she approached you?—A. On the port side.

4190. Q. Was she always on your port side?—A. Yes, sir.

4191. Q. And did you pass her red to red?—A. Yes, sir.

4192. Q. About how far off?—A. About half a mile.

By Mr. Aspinall:

4193. Q. When were you first asked about this matter?—A. I was up in Montreal and that gentleman that just spoke to me now came on board the *Alden* and asked me if I had seen the *Empress of Ireland*.

4194. Q. When did this happen?—A. I can't exactly remember the date, but we have made a trip to Sydney and back again since then.

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By Lord Mersey:

4195. Q. The question that was put to you was this, when did the gentleman come to see you first about this matter?—A. It was after we.

4196. Q. Never mind whether it was after something else or not?....Give us the date.—A. I don't know the date.

4197. Q. Well is it a month ago or two weeks ago or when was it?—A. It was the first trip after the *Storstad* had arrived.

4198. Q. I know nothing about when the *Storstad* arrived, I want to know when it was that the gentleman first came to see you about this?—A. I can't remember the exact date.

4199. Q. Never mind the exact date, give us the closest you can?—A. We went from Montreal to Sydney and back to Montreal again.... about eight days.

4200. Q. I dare say you did go to Sydney and back to Montreal again, but how many days is it since the gentleman first spoke to you?—A. About eight or nine days.

By Mr. Aspinall:

4201. Q. Do you know the reason that that gentleman came to see you?—A. The reason was the collision between the *Empress of Ireland* and the *Storstad*.

4202. Q. And why should that bring this gentleman on board your ship?—A. I don't know.

4203. Q. Had you told anybody about passing the *Empress of Ireland* on this night?—A. No.

4204. Q. Well what brought this gentleman on board this ship?

LORD MERSEY.—Pardon me, Mr. Aspinall, but I cannot believe that.

4205. Q. Had anybody from your steamer mentioned to anybody else that the *Empress of Ireland* had been steering badly on this occasion?—A. Nobody I can think of but the Captain. If he had said anything I don't know that.

4206. Q. Is the Captain here?—A. No, sir.

4207. Q. And you don't know that the Captain ever mentioned it to anybody?—A. No, sir.

4208. Q. Now, I want Mr. Aspinall's question answered.... can you tell us what it was that induced that gentleman to pay you a visit?—A. I heard he was a lawyer.

Mr. Aspinall:

4209. Q. A liar?—A. No, a lawyer.

LORD MERSEY.—I don't understand, whom did the witness say was a liar?

MR. ASPINALL.—Not a liar, my Lord, a lawyer.

LORD MERSEY.—Oh, a lawyer.

MR. ASPINALL.—Yes, my Lord.

4210. Q. I suppose you pass a great many ships, don't you, going up and down?—A. Yes.

HANS OLVEREN, seaman, s.s. *Alden*.

MR. GRIFFIN.—I don't know if your Lordship thinks it is material, but I should be very glad to make a statement as to the manner in which this information reached us, if your Lordship will allow.

LORD MERSEY.—I am afraid I cannot do that. You see if you make this statement you do not make it on oath—not that I should attach any particular importance to the oath—and you do not submit yourself to cross-examination. I do not see how that can be relevant.

OLVEREN.

By Mr. Griffin:

4211. Q. Can you speak English?—A. Yes.

4212. Q. How long have you been on the *Alden*?—A. Seven and a half months.

4213. Q. You are an able seaman?—A. No, an A.B.

4214. Q. On the evening of the 28th of May last what watch did you stand?—A. I was on from half-past seven until twelve.

4215. Q. Now, at half-past seven did you take a turn on the wheel or on the look-out or where?—A. No, I went on the look-out.

4216. Q. And how long did you remain on the look-out?—A. I was on look-out till half-past ten.

4217. Q. And then you left the look-out?—A. Yes.

4218. Q. And then you went on the wheel?—A. Yes.

4219. Q. Before you left the look-out, do you remember passing a large passenger steamer?—A. Yes.

4220. Q. How many funnels had she?—A. Two funnels.

4221. Q. Can you tell me how long that was before you went off the look-out?—A. Six or seven minutes.

4222. Q. When you first saw this steamer what coloured light did you see?—A. The top light.

4223. Q. But after that did you see a coloured light?—A. I seen a red light.

4224. Q. And from that time on, tell us what changes, if any, you noticed in her lights?—A. I seen the green.

4225. Q. You first saw the red?—A. Yes.

4226. Q. And then you saw the green?—A. Yes.

4227. Q. When you saw the green did the red light disappear?—A. Yes.

4228. Q. And then what followed?—A. I saw again the red.

4229. Q. And then?—A. Again a green and a red.

4230. Q. How many times did that happen?—A. About four or five times.

4231. Q. Which bow of your vessel was the other steamer approaching on?—A. On the port side.

4232. Q. And did you pass her on the port side?—A. Yes, red to red.

By Mr. Aspinall:

4233. Q. How long were you keeping the look-out that night?—A. About three and a half hours.

4234. Q. How many vessels did you pass that night during those three and a half hours, do you think?—do you mind answering?—A. I can't tell you.

4235. Q. You can't tell me how many vessels? . . . Why don't you suddenly understand my English as you understood Mr. Griffin's English?

LORD MERSEY.—Perhaps yours is a little too good.

4236. Q. Now turn around to me—how many steamers did you pass while you were on the watch that night?—A. Two.

4237. Q. What sort of a steamer was the other one?—A. A cargo boat.

4238. Q. Not quite as big as the one you were speaking about?—A. No, not nearly so big.

4239. Q. Was that other steamer coming up or going down the river?—A. Going down.

4240. Q. You were coming up?—A. Yes.

4241. Q. Well, now, can you tell me what lights you saw on that boat?—A. I saw a red light.

4242. Q. What lights did you see on that other boat, the cargo boat, can you tell me that?—A. No, I can't say.

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4243. Q. Don't you remember anything about the lights you saw on that other boat?—A. No.

4244. Q. Nothing at all?—A. No, on that ship I only saw a red light.

4245. Q. And can you remember what lights that other boat was showing from time to time? (No answer.)

4246. Q. Can you remember the lights that any boat was showing on that night except the *Empress of Ireland*?—A. No.

4247. Q. Mr. ASPINALL.—When were you first asked about passing the *Empress of Ireland*—do you remember? (No answer.)

By Lord Mersey:

4248. Q. Turn around to me, and I will ask you. . . . when was it that you were first asked to tell what you remembered about the *Empress of Ireland*?

(Witness shakes his head.)

4249. Q. How many days ago is it since you were asked about it? (No answer.)

4250. Q. Do you see that gentleman who is standing up in the court (Mr. Griffin)?—A. Yes.

4251. Q. Have you seen him before?—A. No, I never seen him before.

Mr. GRIFFIN.—May I ask, my Lord, that the interpreter be used with this witness. I really don't think he understands.

LORD MERSEY.—Very well, I daresay he doesn't. (At this point the Interpreter Jensen was called in to assist in the examination of the witness.)

By Lord Mersey:

4252. Q. Did you ever see that gentleman who is standing up in the court before?—A. No.

4253. Q. Who was it that first asked you to tell anything about the *Empress of Ireland*?—A. Court, last night.

4254. Q. I will ask the interpreter to put the question again, by whom you were first asked to tell about the *Empress of Ireland*?—A. That gentleman over there.

4255. Q. When did that gentleman first ask you? How long ago is it? . . . what is he saying now, Interpreter?

The INTERPRETER.—He doesn't understand it. He doesn't understand Norwegian. He is a Russian Finn.

LORD MERSEY.—Is there anybody here who can talk Finnish? What does he talk?

The INTERPRETER.—He talks some Swedish.

LORD MERSEY.—Do you talk Swedish?

The INTERPRETER.—Yes.

LORD MERSEY.—Then I will administer the oath to you again to interpret from the Swedish language into English and vice versa.

By Chief Justice McLeod:

4261. Q. Isn't the witness a Norwegian?

The INTERPRETER.—No, he is a Russian Finn.

(At this point the oath was again administered to the interpreter as applying to the Swedish language.)

LORD MERSEY.—Now, will you tell us when you were first asked to tell what you knew about the steering of the *Empress of Ireland*?—A. The 28th of May.

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LORD MERSEY.—That is a very odd day. That is the day before the accident happened. That is the day before the accident happened and I suppose it is the day when he saw the *Empress of Ireland*, when he passed her on the river.

4262 Q. What I want to know is when you were asked to tell what you are trying to tell us here?—A. Two and a half weeks ago.

4263. Q. And who was it that asked you?—A. That gentleman over there. (Indicating Mr. Griffin.)

4264. Q. And where was he when he asked you?—A. Here in Quebec.

4265. Q. Where, in Quebec?—A. I think it was where the gentleman lives.

4266. Q. Who took you to the place where the gentleman lives?—A. The second mate.

4267. Q. What is his name?—A. I don't know his second name, but Odin is his first name.

4268. Q. What is his name, is he the last witness?—A. Yes.

4269. Q. So it was the last witness that took you to this gentleman's house?—A. Yes.

4270. Q. A little more than two weeks ago?—A. Only last night.

Mr. GRIFFIN.—Perhaps it will help clear matters up if I explain about this. I was on board the ship about ten days ago in Montreal, but at that time this man in the witness box happened to be on shore and I didn't see him. But I was then told that he knew about it.

LORD MERSEY.—Who told you?

M. GIFFIN.—The second mate, the last witness, told me that this man knew about it too, and I asked to have him brought here, and I saw this witness for the first time late yesterday afternoon.

LORD MERSEY.—But as I understand you knew of the character of the evidence which you thought you could get from the *Alden* ten days ago?

Mr. GRIFFIN.—About ten days ago, yes, my Lord.

LORD MERSEY.—Was any question put to Captain Kendall or to any one from the *Empress of Ireland* with reference to the passing of this ship the *Alden*?

Mr. HAIGHT.—Yes, my Lord, by me, on his original cross-examination.

LORD MERSEY.—On his first cross-examination?

Mr. HAIGHT.—Yes, my Lord. Twice I asked him and also the pilot, yesterday.

LORD MERSEY.—Oh, yes, yesterday I know, but I am talking about the first occasion on which Captain Kendall came into the witness box.

Mr. ASPINALL.—There is another question that I would like to put to the witness. Perhaps your Lordship might put it, as he seems to understand your Lordship to some extent.

LORD MERSEY.—What is the question?

Mr. ASPINALL.—When you saw this gentleman last night, did you speak to him in English?—A. Yes.

LORD MERSEY.—I think you ought to supplement it by another question, whether the gentleman spoke to him in English.

Mr. ASPINALL.—Did the gentleman speak to you in English?—A. Yes.

Mr. ASPINALL.—That is all, my Lord.

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PETERSEN, seaman, s.s. *Alden*, sworn.

LORD MERSEY.—Is this another witness on this point?

MR. GRIFFIN.—I have only one other, my Lord, namely the pilot on the *Alden*.

The Commission took recess for luncheon at one o'clock and resumed at 2.30 p.m.

PETERSEN, seaman, s.s. *Alden*. Examined.

MR. PETER ANDREW JENSEN, previously sworn, acted as interpreter.

LORD MERSEY.—Was this ship, the *Alden*, carrying coal?

MR. GRIFFIN.—Yes, sir, she was bound from Sydney to Montreal with coal.

LORD MERSEY.—She was performing the same voyage that the *Storstad* was?

MR. GRIFFIN.—Precisely the same, my Lord.

LORD MERSEY.—Was she performing it for the same company?

MR. GRIFFIN.—I think she was although I am not perfectly certain of that—yes she was, I am told. She was under charter for the same company.

LORD MERSEY.—Well then, this company had the two boats under charter?

MR. GRIFFIN.—Under time charter to the Dominion Coal Company.

By Mr. Griffin:

4271. Q. You are a seaman on the steamship *Alden*?—A. (Witness). Yes, sir.

4272. Q. You have been here for seven months?—A. Seven months.

4273. Q. How long have you been taking regular turn at the wheel of that steamship?—A. Five months.

4274. Q. On the evening of May 28, do you remember passing a passenger steamship?—A. Passed a steamboat with two smokestacks.

4275. Q. Did you hear the name of the vessel mentioned by your pilot?—A. The pilot said it was the *Empress*.

4276. Q. Were you at the wheel of your vessel at the time?—A. Yes sir.

4277. Q. Is that wheel on the bridge?—A. Yes, sir.

4278. Q. Tell us what lights you saw on the *Empress* as she approached you.—

A. First the two masthead lights and the port light.

4279. Q. What colour was the port light?—A. Red.

LORD MERSEY.—What colour would you expect it to be?

MR. GRIFFIN.—I just wanted to make sure of the witness.

4280. (To witness). Q. Tell us the changes, if any, you saw in the lights of the *Empress* as she approached?—A. I saw both lights.

4281. Q. And then what?—A. I saw the starboard light.

4282. Q. Then what; go on and give all of it to us.—A. Both lights.

4283. Q. Well go on.—A. The port light.

4284. Q. How many times did you see a change from green to red and from red to green?—A. Three times, about.

4285. Q. Did you get any order to your wheel as you and the *Empress* approached each other?—A. Port helm.

4286. Q. How much did you port your helm?—A. About 1½ points.

4287. Q. On which side did you and the *Empress* pass?—A. Port.

Cross-examined by Mr. Aspinall:

4288. Q. Are you a Norwegian?—A. Yes, sir.

4289. Q. Do you know any of the crew on board the *Storstad*?—A. I have seen them but I do not know their names.

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4290. Q. You have been here for seven months on board this steamer plying between Sydney and Montreal, is that right?—A. Yes, sir.

LORD MERSEY.—Ask him how long the trip from Sydney to Montreal takes.

By Mr. Aspinall:

4291. Q. How long does the trip from Sydney to Montreal take?—A. Four days.

LORD MERSEY.—Ask him how many trips he has made in the seven months in which he has been in the employ.

By Mr. Aspinall:

4292. Q. How many trips have you made in the seven months you have been on board the *Alden*?—A. I cannot say.

4293. Q. About?—A. I cannot say.

4294. Q. Does your ship, when she gets to Montreal, discharge her cargo at once and return to Sydney?—A. Yes, if there is no boats in the way.

4295. Q. What do you mean by that?—A. At the discharging berth.

4296. Q. If she can get her discharging berth she gets rid of her coal and at once goes back?—A. Yes.

4297. Q. Have you in the seven months made a large number of trips?—A. I do not know.

4298. Q. Why do you not know?—A. ———

By Lord Mersey:

4299. Q. Has he made more than two trips in the seven months?—A. Yes.

4300. Q. Has he made a dozen trips?—A. No.

4301. Q. Has he made a half-dozen trips—6—?—Does he make one trip in a month?—A. About three.

4302. Q. Three trips a month? That would make 21 trips if he has been employed seven months.

MR. GRIFFIN.—If you would allow me, I think that this man's meaning is that he has been seven months on the steamer but not seven months plying between these two ports. Seven months ago the river was closed by ice and navigation was impossible. That is the explanation, I think.

LORD MERSEY.—It may be. I do not know when the river was open.

MR. GRIFFIN.—The middle of May, they tell me.

MR. ASPINALL.—Towards the end of April I am told.

LORD MERSEY.—I am told it opens about the beginning of April.

MR. GRIFFIN.—About the 25th of April, I am told, my Lord.

By Lord Mersey:

4303. Q. Where was the boat plying during the first five or six months that you were in the employ and what was the boat doing?—A. Between Narwick, Norway and Emden.

4304. Q. When was her first trip from Sydney to Montreal?—A. The first of May.

4305. Q. How many days does it take to go from Sydney to Montreal?—A. About four.

4306. Q. Now, can he tell us how many trips he made between Sydney and Montreal from the 1st of May until the time when he saw the *Empress* coming down the river?—A. I think three.

By Mr. Aspinall:

4307. Q. Can you tell me of any other occasion that you remember seeing the lights of a passing vessel?—A. Yes, sir, many times.

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4308. Q. Could you tell us if we were to ask you what lights they showed you?—
A. First the masthead light.

4309. Q. Now you are going to the story. Have you ever been on the *Storstad* yourself?—A. Yes, sir.

4310. Q. When?—A. The last trip to Montreal.

4310(a). Q. How long ago was that?—A. I am not sure.

4311. Q. Was it since you saw the lights of the *Empress of Ireland*?—A. Yes, sir.

4312. Q. Did anybody on board the *Storstad* talk to you about this collision?—A. Yes sir.

4313. Q. Why did you come to be upon the *Storstad*; were you asked to go?—A. I went on board to look at the damage.

LORD MERSEY.—Ask him whether the two ships, the *Alden* and the *Storstad*, are consigned to the same office in Montreal?

Mr. ASPINALL.—I am told that it is their own office at both ends, namely, the Dominion Coal Company's office.

LORD MERSEY.—I want to know if both these ships are consigned to the same office.

Mr. ASPINALL.—I am told so, and I have no doubt—

Mr. HAIGHT.—They are both on time charter to the Dominion Coal Company, and they both discharge in Montreal at the Dominion Coal wharf.

LORD MERSEY.—Are the men paid in the same office in Montreal?

Mr. HAIGHT.—No, they belong to different owners and they are paid with money which comes from the owners of the ships.

LORD MERSEY.—But who pays them when they get to Montreal?

Mr. HAIGHT.—The master is provided with funds by his owner abroad and he pays his own crew.

By Lord Mersey:

4314. Q. Ask him where he gets his wages in Montreal.—A. The Captain.

4315. Q. Is the money paid to him on board ship or in an office?—A. On board ship.

By Mr. Aspinall:

4316. Q. When you went on board the *Storstad* to see the damage did you have a talk about the collision?—A. Nothing but they said on board that the *Storstad* touched the side of the *Empress*.

4317. Q. Are you sure that is all you were told?—A. Yes, and told something about the *Empress*.

LORD MERSEY.—Have you, Mr. Haight, got the time charters of the two ships?

Mr. HAIGHT.—We can get copies. The Dominion Coal Company certainly have their copies.

LORD MERSEY.—The Dominion Coal Company as I understand, chartered both ships on time charter?

Mr. HAIGHT.—Yes, my Lord.

LORD MERSEY.—Did they charter them both on the same form?

Mr. HAIGHT.—It was the form of the brokers, I suppose. Captain Andersen, do you know who your brokers are?

Captain ANDERSEN.—Clarkson of London.

LORD MERSEY.—And who are the brokers through which the *Storstad* was chartered?

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MR. HAIGHT.—That is the *Storstad*, sir. I asked Captain Andersen about his ship.

LORD MERSEY.—I want to know who are the agents for the chartering of the *Alden*.

MR. HAIGHT.—My guess is that it is Bowering & Co. of New York. That is only a guess but I can verify it and I will be glad to do so.

LORD MERSEY.—You do not know where the charter would be.

MR. HAIGHT.—I do not know but the Dominion Coal Company must have its copies and we will take immediate steps to ascertain that.

LORD MERSEY.—It is scarcely worth while.

By Mr. Aspinall:

4318. Q. When were you first asked about seeing the lights of the *Empress*?—A. At the hotel here.

4319. Q. When?—A. Yesterday.

LORD MERSEY.—I did not catch that.

MR. ASPINALL.—He was asked for the first time about seeing the *Empress* lights yesterday in the hotel. (To witness): How came you to be in the hotel?—A. I was together with a lawyer.

4320. Q. Who brought you to the hotel?—A. The lawyer, another fellow, the second mate and a sailor.

4321. Q. Where did you come from?—A. Three Rivers.

4322. Q. Where is that?—A. Between Montreal and Quebec.

4323. Q. Is your ship at Three Rivers?—A. Yes, sir.

LORD MERSEY.—Three Rivers is near Montreal?

MR. ASPINALL.—Half way, I am told, between Montreal and Quebec.

By Lord Mersey:

4324. Q. I want to know whether he has been in the office ever of the Dominion Coal Co.?—A. No sir.

By Mr. Aspinall:

4325. Q. When you saw the red light of the *Empress* was it on your port bow?—A. Yes sir.

4326. Q. Can you say whether she had to change course for any lights that were astern of you?—A. No, sir.

By Lord Mersey:

4327. Q. What does he mean by 'no'? Can he or can he not say?—A. He cannot say.

By Mr. Aspinall:

4328. Q. In the St. Lawrence you have very often to port and starboard for other vessels?—A. It is a crooked river.

4329. Q. And you have to alter course a good deal, have you not?—A. Yes.

Witness retired.

MR. HAIGHT.—I find that the interpreter, who is engaged in the shipping business in New York, knows about the charter of the *Alden*. He tells me that she was chartered through Mr. Hilsen and I find I have here the rough extracts from the original charter of the *Storstad* and that shows that the brokers in the case of the *Storstad* were Bowering & Co. of New York and Clarksons of London.

LORD MERSEY.—Were the two firms engaged in making the charter?

MR. HAIGHT.—I assume that Bowering & Co. of New York are the correspondents of Clarksons in London.

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LORD MERSEY.—That is the *Storstad*?

Mr. HAIGHT.—That is the *Storstad*.

LORD MERSEY.—What about the *Alden*?

Mr. HAIGHT.—In the case of the *Alden* the brokers were George Hilsen, New York.

LORD MERSEY.—Alone?

Mr. HAIGHT.—He probably was working through some broker on the other side but he is the real broker who fixed the ship with the Dominion Coal Co.

LORD MERSEY.—Will you let me see the extract?

Mr. HAIGHT.—Yes, the form is the same as that used by the Dominion Coal Co. with a slight change in the wording.

LORD MERSEY.—Have the Dominion Coal Company their own form of charter?

Mr. HAIGHT.—You will see on it 'Form G, Dominion Coal Company, Ltd.' and then 'Time Charter.'

LORD MERSEY.—These two charter parties are practically the same?

Mr. HAIGHT.—I do not know that the *Alden* was chartered on that form, but I think very likely it was.

LORD MERSEY.—At all events the Dominion Coal Company, I see by this, have their own form of charter.

Mr. HAIGHT.—They have.

LORD MERSEY.—And in print in one corner there is the name 'Bowering & Co., Agents and Ship Brokers.'

Mr. HAIGHT.—It is not unusual with brokers who do a good deal of chartering for one concern to print a form and put the principals' names at the top. Some one in my office obtained that form from Bowering & Co.'s office in New York.

LORD MERSEY.—Your impression is that the *Alden* was chartered on a similar form, but through other brokers.

Mr. HAIGHT.—It was, I know, through other brokers and it is not unlikely that Hilsen used a similar form. I have even known one broker to use another broker's form, striking out the other broker's name and inserting his own.

LORD MERSEY.—Just wait a moment till I look at it. (Form put in and marked Exhibit No. 9).

L. H. LAPIERRE, pilot, sworn.

By Mr. Haight:

4330. Q. Mr. Lapierre, you are a regularly licensed St. Lawrence river pilot?—
A. Yes, sir.

4331. Q. Did you, on the 28th of May, pilot the steamship *Alden* up to Montreal?—
A. No, sir.

4332. Q. Up to Quebec?—A. Up to Quebec, yes, sir.

4333. Q. Where did you go on board her?—A. I got aboard at two o'clock in the afternoon of the 28th.

4334. Q. Where.—A. Father Point.

4335. Q. On your voyage up the river did you pass the SS. *Empress of Ireland*?
A. Yes, sir.

4336. Q. While you were coming up she was coming down?—A. Yes, sir.

4337. Q. Will you please take the chart which I hand you and tell us where it was in the river that the vessels actually passed (chart handed to witness.) If you can,

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Mr. Lapierre, take a pencil and mark the side of the river and the point in the river where your steamer was, and, as well as you can, the location of the *Empress* when you were beam to beam? (Witness marked on chart)—A. I have no compass and I may be off a quarter of a mile. I have no dividers and I am guessing the place where it is to a mile. (Witness was supplied with dividers, and again marked on chart).

4338. Q. You have indicated, Mr. Lapierre, right opposite Cape Dogs by two XX's the position of the two vessels?—A. No, only mine. I put it too near once—the first cross.

4339. Q. Shall we leave it or rub it out?—A. The cross that is farthest away from the north shore represents the position of my vessel—of my vessel about two miles off.

4340. Q. And the *Empress* was then on your port side?—A. No, she was right ahead.

4341. Q. What I wanted you to do was to indicate the point on the river at which the vessels passed when they were beam to beam.—A. When she passed me she was where I put the X.

4342. Q. Then it is true that the two vessels were beam to beam—broadside?—A. Broadside where the cross is.

4343. Q. Right off Cape Dogs?—A. No, about half a mile below it; or two miles off or one and three-quarters. I did not measure it. I am only guessing it.

4344. Q. How far off, approximately, from you was the *Empress of Ireland* when you could first make out her coloured lights?—A. I consider I saw her about three-quarters of an hour before she passed me.

4345. Q. How far off was she?—A. About ten miles.

4346. Q. How far off was she when you could make out her coloured lights?—A. About three-quarters of an hour before that I saw her headlights.

4347. Q. You could make out her coloured lights?—A. Coloured lights right away afterwards—fair, clear night.

4348. Q. When you made her out did you see her starboard or port light?—A. Not quite exactly. I wanted to know what ship she was. I kept on my course for five or ten minutes until I saw her red light.

4349. Then what did you do?—A. I showed her my red and I turned about one-quarter of a point and kept my vessel in that position.

4350. Q. You were red to red?—A. Yes.

4351. Q. Were you able to go by her holding the course you had assumed when you had ported and shown red to red or did you have again to change your wheel?—A. If he had kept to his red light and me to my red light we would not have to change our course.

4352. Q. Did you have to change your course?—A. I had to alter it all the time—port helm all the time.

4353. Q. You kept porting more?—A. Porting more; she was coming close to me and she was not changing her course. She showed me her red a couple of times and she showed me her green lights and I got afraid she would run into me and gave her more port. Then, when she got within half a mile or three-quarters of a mile of me she showed me her red light and went down all right.

4354. Q. How much clear water was there between you when you actually passed?—A. She was about a cable's length from me. Of course, it was night time.

By Mr. Aspinall:

4355. Q. Do you often pilot these colliers?—A. Yes, sir, I have been on a great many of them.

4356. Q. Do you pilot the Dominion Coal Company's colliers?—A. Yes, I have been on them and others. I am on the tour de role.

4357. Q. I think that in England the expression is 'choice pilot'?—A. Yes, it is about the same. It is what is known as the tour de role and the pilots are all employed by the companies.

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LORD MERSEY.—The tour de role?

Mr. ASPINALL.—Each pilot takes his turn.

By Mr. Aspinall:

4358. Q. You have piloted colliers often and the Dominion Coal Co's colliers often?
—A. Yes, all that comes up—men-of-war, and everything.

4359. Q. Do you know Bernier, the ship pilot who was on the *Empress of Ireland* on this occasion?—A. Yes, sir.

4360. Q. Have you known him for some time?—A. Yes, since he was an apprentice.

4361. Q. Is he an honest, truthful man, as far as you know?—A. Yes, sir; he is a good, able man too.

4362. Q. And an honest man and, as far as you know, a truthful man?—A. Yes, sir.

4363. Q. On this occasion when you saw the lights of the *Empress* did you see the masthead light and the two side lights all at the same time?—A. No, sir.

4364. Q. Which did you see first?—A. First the headlight.

4365. Q. And you saw these lights ahead?—A. Yes.

4366. Q. You said right ahead?—A. Right ahead.

4367. Q. A very trifling sheer on the part of your ship or of the *Empress* would show different lights, would it not, to the people on board of each vessel?—A. Yes, sir.

4368. Q. Do you know whether there were any vessels astern of you as you were approaching the *Empress*?—A. I did not notice.

4369. Q. You would not be concerned with what was behind you, I suppose?—A. No. Sometimes I might happen to look aft and see a light that is coming. When we are there we are looking all around the river to see what we have to do, but when we have passed a place it is no use to look at it; it is past. It is ahead we are looking mostly.

4370. Q. If the *Empress* should be altering for anything astern of you you would not know?—A. No.

4371. Q. I suppose you have very often to alter course in that river?—A. Yes, sir, very often.

4372. Q. On this occasion how far away was the *Empress* from you when she got red to red with you?—A. I dare say she was about three-quarters of a mile, as far as I can guess it.

4373. Q. On how many occasions did she twist in this odd way?—A. She twisted all the time. All the time I saw her—three or four times she changed her light.

4374. Q. Three or four times after she gave red to red in a distance of about three-quarters of a mile?—A. No, that is before that.

4375. Q. It was all right after you got here?—A. Three-quarters of a mile off she showed me her red light but before that she showed red and green. She was six or seven miles away at the time.

4376. Q. I thought you meant that you saw her three-quarters of a mile away and she passed you safely?—A. Yes, sir.

4377. Q. When she was passing you did she seem to be steering all right?—A. Yes, sir.

4378. Q. When she was doing these odd things, showing you first her green light and then her port bow, shutting it out and opening it out again, did you keep your full speed?—A. Yes.

4379. Q. You were frightened of her?—A. We are all frightened when you see a ship coming before you and she is not answering your signal. There is a rule and we have got to follow it and he did not follow it that night, and did not show me his red light as he ought to do, and that is why I was afraid.

4380. Q. Are you annoyed with him?—A. No, sir.

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4381. Q. You thought—am I right in this suggestion—that he might run you down?—A. Yes, sir.

4382. Q. That meant that you thought there was risk of a collision?—A. Yes, sir.

4383. Q. Is it not a good rule of seamanship, when you think there is risk of a collision to take your way off, slow down and possibly stop?—A. When it is one, but you have to wait to find out if it is one.

4384. Q. You thought there was risk of a collision?—A. Yes, I thought he would show me his red light.

4385. Q. What speed were you travelling at?—A. These colliers are about 8½ knots. When they are full speed they are not going very fast. I do not want to stop no speed from them to clear all the ships.

4386. Q. Is that your experience in the navigation of this river?—A. Yes.

4387. Q. You don't want to stop no speed of them?—A. Of course, if you run ashore or anything of the kind they will stop.

4388. Q. Nothing short of running ashore stops a collier?—A. We have to stop them every day.

4389. Q. Do you know that they do their best to get around very quickly from Sydney to Montreal?—A. Yes, sir, lose no time as much as possible.

By Lord Mersey:

4390. Q. I think you said you did not alter your speed at all?—A. No, sir, I did not alter any speed because I did not want to. I had no reason to yet. I was watching.

By Mr. Aspinall:

4391. Q. When you first saw this vessel she was about 10 miles away?—A. I think so. You could see the lights from a long distance. These big ships have very fine lights. I won't swear, though, that she was 10 or 8 or 9.

4392. Q. As she was approaching you, being at a distance of 10 miles from you, are there bends in the river round which she might have to come?—A. No, sir, it was about as straight as you could like on the chart. It was as straight a place as ever we have.

4393. Q. You marked this chart to-day for this gentleman?—A. Yes.

4394. Q. Have you been asked to do that before?—A. No.

4395. Q. Are you sure?—A. I marked it just now because I was asked.

4396. Q. Is this the first time you marked a chart to show where the vessels were when they passed?—A. For this affair.

4397. Q. What do you mean by "this affair"?—A. Do you mean did I never mark a chart before? If you mean that, I say I have marked a good many charts and I have took a good many courses on the chart, but to-day I marked that one to show to the gentleman where the ship was. That is the first time I done it on that chart.

4398. Q. When were you first asked about these manœuvres of the *Empress*?—A. Manœuvres?

4399. Q. Manœuvres; the change of her lights in this way?—A. When I was aboard; when I was on her.

By Lord Mersey:

4400. Q. The question is, when were you first asked about all this?—A. Oh, well, when I was first asked, about ten days ago, that Mr. Griffin—

4401. Q. Griffin?—A. Griffin, and another gentleman, Mr. Power, I think—no, Murphy. Mr. Murphy came to the office; he had been in Montreal to see the captain and he told me about it; he asked me if it was true what the second mate said.

By Mr. Aspinall:

4402. Q. The day you passed the *Empress* was the 28th?—A. Yes.

4403. Q. And you were asked about this about ten days ago?—A. Well, about that, sir.

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4404. Q. If I were to ask you about any ship you passed on the 1st of May, do you think you could remember it?—A. On the 1st of May?

4405. Q. Yes?—A. No.

4406. Q. You don't think you could?—A. I do not know if I was there on the 1st of May. I was at home; I couldn't pass no ship.

4407. Q. Take the week before; were you at sea?—A. No, sir.

4408. Q. Take the week after?—A. I was still at home the week before.

4409. Q. The week after, where were you, at sea?—A. No, sir, not yet.

4410. Q. Still at home?—A. Still at home.

4411. Q. Your turn hadn't come?—A. No, sir.

4412. Q. On any night but this 28th of May could you tell me about the lights of any vessel that passed you?—A. Well, it is pretty hard to tell you which ship I passed, but I can tell you I passed a good many ships, and every one I did pass, when it was in a large channel, when he showed his green light I showed my green light and when he showed his red light I showed my red light. That is the way I navigate.

4413. Q. That is your method of navigation?—A. Yes, I navigate according to the rules of the road.

4414. Q. When you were passing the *Empress* what was the direction of the current, against you or with you?—A. Against me, sir.

4415. Q. About what was its strength?—A. About four or five knots.

LORD MERSEY.—Does this complete the evidence from the *Alden*?

MR. ASPINALL.—Yes, my Lord. I should like to have the chart marked as an exhibit.

(Chart filed as Exhibit "D.")

Witness discharged.

MR. NEWCOMBE.—I should like now to call the Marconi operators at Father Point. They are here and their services are required down at the station.

CRAWFORD S. LESLIE, Marconi operator, Father Point, sworn

Examined by Mr. Newcombe:

4416. Q. Mr. Leslie, you are 19 years of age?—A. Yes, sir.

4417. Q. You are an assistant operator in the Marconi Wireless office at Father Point?—A. An assistant, sir.

4418. Q. Who is your chief there?—A. Mr. W. J. Whiteside.

4419. Q. You went on duty at Father Point telegraph station on the 29th of May last, at 10 minutes past one in the morning?—A. Correct, sir.

4420. Q. And relieved the operator who was in charge there?—A. Yes.

4421. Q. What did he tell you about the *Empress of Ireland*?—A. He said the *Empress of Ireland* was about.

4422. Q. But had not yet reported abeam?—A. Exactly.

4423. Q. Did you see the ship?—A. I couldn't say exactly I saw the *Empress*; I saw the lights of a ship abeam.

4424. Q. At quarter past one. You sent out a call but got no reply?—A. Yes.

4425. Q. When did you receive a call from the *Empress*?—A. At 1.45 I received the first call from the *Empress*.

4426. Q. What was that?—A. Just a general call.

4427. Q. To indicate that the *Empress* was there?—A. Yes, to attend.

4428. Q. Is that a stand-by signal for further messages?—A. No, the call required an answer.

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4429. Q. Required an answer?—A. Required an answer.

4430. Q. Did you reply to the call?—A. Immediately.

4431. Q. What did he say?—A. He said: Struck a ship; by; get officer in charge.

4432. Q. By?—A. By, which means to stand by.

4433. Q. What did you do?—A. I immediately rushed up to the officer's room and told him that the *Empress* was in danger.

4434. Q. That is, Mr. Whiteside?—A. Mr. Whiteside.

4435. Q. You immediately went up to Mr. Whiteside as chief, and called him at 1.48?—A. About 1.48.

4436. Q. That is, according to the time in your office?—A. Time in my office.

4437. Q. Did you get any further message from the *Empress*? Did you take any further message yourself?—A. At 1.50 a.m. the *Empress* said: "Listing terribly; by," and immediately started the S.O.S. call. Mr. Whiteside immediately took over charge of the instruments.

4438. Q. What did you do?—A. I stood by for further orders.

4439. Q. Did you go to the telephone?—A. Yes, I went to the telephone to call the *Lady Evelyn*.

4440. Q. Did you speak to the *Lady Evelyn*?—A. Yes, I spoke to whoever was attending to the 'phone there. Mr. Whiteside immediately took up the 'phone in the operating room and spoke to the captain of the *Lady Evelyn*.

4441. Q. Then what did you do?—A. I immediately rushed over to the Great Northwestern Telegraph Office to Mr. McWilliams and asked him to give us land line No. 7, as our own No. 4 was out of commission.

4442. Q. You saw Mr. McWilliams?—A. Yes, I saw Mr. McWilliams.

By Mr. Haight:

4443. Q. What time do you have in the wireless station there; is it Montreal time?—A. Montreal time.

4444. Q. How do you get your time? Are you in communication so that you can set your clocks daily and keep them accurate?—A. Communication at 12 p.m. every day.

4445. Q. Communication with what?—A. The time is got every day at 12 p.m. from Montreal.

4446. By wireless?—A. By land line wire.

4447. Q. That is, the signal comes over the telegraph wire every day at 12 p.m.?—A. At 12 p.m., yes.

4448. Q. Do you know whether your clock had been set accurately at 12 that day?—A. I could not say for certain, but I believe it had.

4449. Q. To the best of your judgment, your clock was really accurate time?—A. I believe so.

4450. Q. What was the moment that the call came in: "We struck a ship"?—A. 1.45 a.m.

4451. Q. Did you make any entry of the call?—A. Yes, I made an entry of the call.

4452. Q. And you looked at the clock before you made the entry, so you are sure of the moment?—A. Yes, I looked at the clock.

4453. Q. And it was what time that you got the word: Listing terribly?—A. 1.50 a.m.

4454. Q. And what was the time that the communication was cut off, did you notice?—A. About 1.55. Mr. Whiteside got the last communication.

4455. Q. Did you happen to know when the *Empress* dropped her pilot? Was there any communication at that time?—A. No communication at that time at all.

4456. Q. You don't know when that was?—A. Don't know when that was.

Witness discharged.

LESLIE.

SESSIONAL PAPER No. 21b

WILLIAM JAMES WHITESIDE, superintendent, Marconi wireless station, Father Point, sworn.

Examined by Mr. Newcombe:

4457. Q. Are you the officer in charge of the Marconi wireless telegraph station at Father Point?—A. Yes.

4458. Q. The last witness is your assistant?—A. Yes, one of them.

4459. Q. How many have you there?—A. I have three there at present.

4460. Q. Were you on duty on the night of the 29th of May?—A. No, I was not on duty in the night.

4461. Q. You were there at the station; you were called?—A. I was at the station.

4462. Q. You were called by Mr. Leslie, the last witness?—A. Yes, in the morning.

4463. Q. On the morning of the 29th of May?—A. Yes.

4464. Q. At what hour, do you know?—A. He called me about 1.52—1.48.

4465. Q. 1.48, according to the statement I have here. Did you verify the time of the call yourself?—A. No, but when I arrived in the instrument room it was 1.50.

4466. Q. And you came down immediately on being called?—A. I came down immediately.

4467. Q. Mr. Leslie had reported to you that the *Empress* was in distress?—A. Yes, he shouted out: the *Empress* is in distress.

4468. Q. What did you do when you came down to the instrument room?—A. I took the telephones off Operator Leslie's head and put them on my own.

4469. Q. That you say would be about 1.50?—A. About 1.50.

4470. Q. What communication did you have then with the *Empress*?—A. I heard her sending the last of her S.O.S. call.

4471. Q. Did you send any communication to her?—A. When she finished the call I asked her what was her present position so that I could send the government steamers to her assistance.

4472. Q. What did he say?—A. Twenty miles from Rimouski.

4473. Q. And then what happened?—A. I told Operator Leslie to call the captain of the *Lady Evelyn*.

4474. Q. Before you come to that: about his signals, was there any indication that his machine was out of commission?—A. I reported to him: 20 miles from Rimouski, to verify it, and his signals trailed right off and I knew then that his power had gone off.

4475. Q. You had no further communication?—A. No further communication.

4476. Q. What did you do at Father Point after that?—A. I took it for granted that he would still be standing by on his receiving apparatus, which I expect would be all right, so I told him: I am sending the *Lady Evelyn* and the *Eureka* to your assistance.

4477. Q. You sent out some further calls about 1.58?—A. Yes, I made the call: C.Q., that is a general call which all ships that hear it must answer. I called the *Hanover*, who I reckon would be about that place at the time. She was coming into Montreal and she was 90 miles off at 9.50 the previous evening.

4478. Q. But you got no answer?—A. Got no answer.

4479. Q. In the meantime what did you do about the *Lady Evelyn* and the *Eureka*?—A. I told Operator Leslie to call up the captain of the *Lady Evelyn* on the telephone.

4480. Q. The *Lady Evelyn* was lying there at Father Point, was she?—A. No, she was lying at Rimouski wharf.

4481. Q. Did you speak to him?—A. Immediately he got Captain Pouliot of the *Lady Evelyn* I spoke to him and said: The *Empress* is sinking. I said: I cannot tell

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you whether she is east or west of Father Point, as she did not report abeam, but that immediately the *Eureka* returned to the wharf, she would know which direction she was in. He said: It is all right, as I will have to get steam up, so I won't be able to go off for a few minutes. Then I telephoned the *Eureka*. At the time I was telephoning the *Evelyn* the *Eureka* was right outside the station taking a pilot off some boat. Immediately she tied up at the wharf I telephoned her—it was about two o'clock—and I said: The *Empress* is sinking; go to her assistance; rush. The Captain replied that the *Empress* had passed her and that he was going right away; I could hear him shouting out then on the telephone before he put it on the receiver: Cut those ropes; let us get away quick; the *Empress* is sinking. Then I called up the *Lady Evelyn* and told him that she was east of Father Point, and to rush.

4482. Q. You also saw the *Eureka* going out, didn't you?—A. Yes, she left the wharf immediately, at about two o'clock.

4483. Q. Did you see the *Lady Evelyn* pass?—A. Yes, she passed about 2.48.

4484. Q. Going down?—A. Going down.

4485. Q. You sent a message about land lines to Mr. McWilliams?—A. Yes, I sent Leslie. Immediately he got the Captain of the *Lady Evelyn*, I sent him over to tell Mr. McWilliams, the G.N.W. agent, to fix the land line.

4486. Q. Was that done?—A. That was done immediately.

Witness discharged.

JOHN MCWILLIAMS, Manager, Great Northwestern Telegraph, Father Point, sworn.

Examined by Mr. Newcombe:

4487. Q. Are you in charge of the Great Northwestern Telegraph at Father Point?—A. Yes, I am manager of the Great Northwestern Telegraph Company, Meteorological observer, signal officer, and I look after the interests of the steamers at Father Point, the different liners.

4488. Q. Will you state what your knowledge is with regard to communications sent out on the night of the 29th of May in regard to the accident to the *Empress*?—A. On the 29th of May, after having prepared the *Empress'* mail and sent it on board by the boat that went off for the pilot, I assured myself that the land communication was correct for the Marconi service, and then I went and turned in. This was at 12.30 a.m. Shortly before 2 I was awakened by the S.O.S. signal on my door bell, rung by the Marconi operator, who had been sent over by Mr. Whiteside to advise me of the danger signal he had got from the *Empress*. I rushed downstairs in my night dress and on opening the door he told me the news. I asked him if the *Lady Evelyn* had been advised and if the *Eureka* had been advised. He said: The *Lady Evelyn* has been advised, but the *Eureka* is not in yet. Then I looked out and I saw the *Eureka* coming in towards the wharf. Have you notified the *Hanover*? She is the nearest vessel in the vicinity to go to the rescue. The answer I got back was that they had called the *Hanover* but had not been able to get her so far. I asked the young operator, as he was dressed, to run down and meet Captain Belanger coming into Father Point and I would seize the telephone.

4489. Q. Captain Belanger of the *Eureka*?—A. Of the *Eureka*, yes. As soon as he arrived at the wharf he connected with the telephone at once, the first act he did on going down to his room. Holding the telephone in my hand I heard the Marconi operator, Mr. Whiteside, give the signal to the *Eureka*. Captain Belanger of the *Eureka* called me at once with two rings—we were on a party line—and said, I have just got news that there has been an accident to the *Empress*. I said yes, for God's sake, rush. I heard his two "all rights" and I could hear him in the distance as he

MCWILLIAMS.

SESSIONAL PAPER No. 21b

was moving away; he had evidently left his receiver unhung. After that I spent the rest of the night between my office and outside with my telescope to see if I could be of any use and I was there when the *Eureka* came in with the first boat load of survivors.

By Mr. Haight:

4490. Q. Do I understand that the boy who was sent to call you rang the S.O.S. signal on your door bell?—A. On my door bell, yes. It was not a boy; he was the Marconi operator who gave evidence a short time ago.

Witness discharged.

JAMES D. GOOD, mechanical engineer, sworn.

Examined by Mr. Griffin.

Mr. GRIFFIN.—My Lord, it seemed to us that it might be of assistance to the Court if we could present in as descriptive a form as possible the present condition of the stem of the *Storstad*. We have tried to do that in two ways: in the first place, by photographs, which have already been handed in, and in the second place, by having a model constructed in such a way as to show both the original position of the stem and its present position. Of course, manifestly all the details of the damage could not be reproduced in this way, but I think we have the main features and I shall call the gentleman who was the maker of the model to establish the accuracy of it.

4491. Q. What is your occupation, Mr. Good?—A. Mechanical engineer.

4492. Q. Where were you trained; where did you study?—A. McGill University, Montreal.

4493. Q. Did you make measurements last week of the stem of the *Storstad*?—A. I did.

4494. Q. And did you construct the model which is now produced?—A. I did.

4495. Q. Will you describe the method which you followed in making your measurements and in building the model?—A. I made a series of profiles covering every foot from the deck line to the present water line and reduced those profiles to wood strips, attaching them together so that we could get an accurate representation of the boat. I laid off the proper centre lines to start with and a principal plumb line round the damaged section with offsets to the bent plating. When we put the profiles together we got a very accurate representation of the damaged boat in miniature.

4496. Q. What is the scale of the model?—A. One-quarter inch to the foot.

4497. Q. And it shows from the stem back to what point?—A. To the collision bulkhead.

4498. Q. What is the wire framework in front of the model? What does that show?—A. That indicates the true position of the stem originally, also the deck line before the impact.

4499. Q. And you got that from the builder's plans?—A. From the builder's plans.

4500. Q. Roughly speaking, about how many measurements did you take as a basis for your model?—A. Somewhere about 1,000 measurements.

4501. Q. Were these measurements correctly and accurately made?—A. They were all read to the first decimal place of a foot.

4502. Q. Does the model as a matter of fact show with accuracy the present condition of the *Storstad's* stem?—A. Yes, it does.

4503. Q. Does it indicate anything below the present water line?—A. No, it doesn't.

4504. Q. Do you know what the ship's draught of water is as she lies now?—A. About four feet.

GOOD.

By Lord Mersey:

4505. Q. You say it does not indicate anything below the present water line?—A. No, it does not.

Mr. GRIFFIN.—This ship is still in the water; she is not in dry dock and so we have not been able to go below the present water line.

The WITNESS.—The present water line is somewhere about four feet from the bottom of the boat.

By Lord Mersey:

4506. Q. Four feet from where?—A. From the keel line. That is only an approximate measurement.

By Chief Justice McLeod:

4507. Q. The model is as it shows above the water?—A. As it shows above the water.

4508. Q. What is this in red?—A. What is painted on the vessel, the full load water line.

By Lord Mersey:

4509. Q. The anchor is not shown?—A. Both anchors are visible but they are not on the model.

By Mr. Griffin:

4510. Q. As the ship lies now, she has no cargo in her, has she?—A. No.

Mr. GRIFFIN.—I should like to have the model marked, my Lord, as the *Storstad's* exhibit 10.

(Model marked as *Storstad's* Exhibit No. 10).

LORD MERSEY.—Have you seen this model, Mr. Aspinall?

Mr. ASPINALL.—I have seen it, my Lord, for a minute, perhaps.

LORD MERSEY.—Show it to your clients and let us know if they accept it as a fair representation of the present condition of the *Storstad's* stem.

Mr. ASPINALL.—Might Mr. Hillhouse keep it in his possession over night, just to look at it in conjunction with other matters?

LORD MERSEY.—Have you any objection, Mr. Haight?

Mr. HAIGHT.—We have, my Lord, a naval architect, who, I assume, will arrive here late this evening, to whom I should like to submit it during the evening; perhaps Mr. Hillhouse would have sufficient time between now and eight o'clock.

LORD MERSEY.—I have no doubt he would. You can have it again to-night, Mr. Haight, for the purpose for which you want it.

Mr. GRIFFIN.—May the witness leave the city and return to Montreal, where he lives? I understand that he wants to get back?

LORD MERSEY.—I have no doubt he does, but if this model is to be examined by Mr. Hillhouse to-night and is to be spoken about to-morrow by your naval architect, it would be better if he remain here until to-morrow.

Witness retired.

GOOD.

SESSIONAL PAPER No. 21b

ERNEST PUGMIRE, passenger, *Empress of Ireland*, sworn.

By Mr. Newcombe:

4511. Q. You were a first cabin passenger on the *Empress of Ireland*?—A. Second cabin.

Mr. NEWCOMBE.—My Lord, Mr. Haight wants to ask him a few questions.

By Mr. Haight:

4512. Q. You were one of the passengers on the Steamship *Empress of Ireland*?—A. Yes, sir.

4513. Q. At the time of the disaster?—A. Yes, sir.

4514. Q. Where were you when the collision actually occurred?—A. I was in my cabin.

4515. Q. Were you aroused by the collision or did you wake before?—A. Just about a second or so before.

4516. Q. What awakened you?—A. I could not say, except it was the whistles.

4517. Q. Whereabouts was your cabin?—A. 432, on the upper deck.

4518. Q. As soon as you felt the-jar of the collision, what did you do?—A. I immediately got down from my berth, stepped out in the corridor and immediately went back and put on my overcoat and went upstairs on to the deck.

4519. Q. Which part of the deck did you go to when you got out on it?—A. The left side.

4520. Q. The port side?—A. I presume that is what it is.

4521. Q. What deck was it that you went out on, can you tell?—A. The saloon deck.

4522. Q. Did you see the *Storstad* at all after the collision?—A. Not until I was in the water.

4523. Q. Did you have any opportunity to observe whether or not the steamship *Empress* was in motion when you got on deck?—A. I looked over the side.

4524. Q. And what did you see?—A. Either the *Empress* was moving astern six or seven miles an hour or there was a pretty strong current.

By Lord Mersey:

4525. Q. Moving astern?—A. Moving astern, sir.

By Mr. Haight:

4526. Q. Did you, Mr. Pugmire, happen to see an article which appeared on June 1st, in one of the Detroit papers?—A. I did.

4527. Q. That statement, purporting to be an interview with you, just had the facts reversed, then.

Mr. ASPINALL.—My Lord, I object to that.

LORD MERSEY.—This will not do, you know; you have asked a question and given the answer.

Mr. HAIGHT.—That is quite right.

LORD MERSEY.—And it is not the answer you wanted.

By Mr. Haight:

4528. Q. Did you, Mr. Pugmire, go out on to the upper deck on the same side of the ship that your room is located on?—A. No, on the opposite side.

4529. And you went to the rail and looked over?—A. Yes.

4530. Q. Now, as you stood at the rail and looked over, which way did the water seem to be moving, to your right or to your left?—A. To the right.

PUGMIRE.

By Lord Mersey:

4531. Q. And the stern of the ship was to your left?—A. The stern of the ship was to my left.

Witness discharged.

JACOB SAXE, third officer, *Storstad*, sworn.

Mr. HAIGHT.—The witness, my Lord, speaks some English, and I think if I go slowly and use short words I can avoid the use of an interpreter.

LORD MERSEY.—I hope you will.

By Mr. Haight:

4532. Q. Mr. Saxe, you were the third officer on the *Storstad* on the night of the collision?—A. Yes, sir.

4533. Q. How long have you been on the *Storstad*?—A. About 13 months.

4534. Q. How long have you been going to sea?—A. I went to sea in 1908.

4535. Q. When did you go on the bridge of the *Storstad*, prior to the collision?—A. At 12 o'clock in the night.

4536. Q. What was your regular watch?—A. From 12 o'clock to 4 o'clock.

4537. Q. What time were you carrying at the time, Sydney or Montreal?—A. Sydney time.

4538. Q. Who was on the bridge with you at 12 o'clock and up to the time of the collision?—A. The chief officer.

4539. Q. It was his regular watch too?—A. Yes, sir.

4540. Q. Is it customary on the *Storstad* for you to have two officers on the bridge, the chief and the third officer in the same watch?—A. Yes, sir.

4541. Q. Who else did you have on duty on deck? Was there a man at the wheel?—A. Yes, sir, a quartermaster.

4542. Q. Anybody forward?—A. Yes, the lookout man and another A.B. on deck.

4543. Q. So that there were five men on duty in your watch?—A. Yes, sir.

4544. Q. When did you first see the *Empress* or the lights from her? I do not expect you to give the minute, but approximately where she was? How did she bear, how far away?—A. Oh, well, may be about 6 or 8 miles.

By Lord Mersey:

4545. Q. Six or eight miles away?—A. Yes, sir.

By Mr. Haight:

4546. Q. And on which bow was she?—A. On the port bow.

4547. Q. And about how many points off?—A. Oh, that I cannot tell you.

4548. Q. Were you on the bridge continuously from the time that you first saw her white lights up to the time of the collision?—A. No, sir.

4549. Q. When did you leave the bridge?—A. I left the bridge two times.

4550. Q. That is, during your watch from 12 until the time of the collision you left the bridge twice?—A. Twice.

4551. Q. When did you leave it the first time?—A. About half past two.

4552. Q. And what did you leave it for?—A. To take in the log.

4553. Q. When you went aft to take in the log, were any lights on the shore in sight?—A. Yes, sir.

4554. Q. What lights?—A. The Father Point light.

4555. Q. When you had taken the log in, did you return to the bridge?—A. I returned to the bridge.

SESSIONAL PAPER No. 21b

4556. Q. When did you leave the bridge the second time?—A. About a quarter of an hour later.

4557. Q. What did you then leave for?—A. The Chief Officer asked me how much it was on the log, and that time I took it in I didn't know it, and then I went back again to see how much it was.

4558. Q. You hadn't actually taken the readings when you took the log in first?—A. No, sir.

4559. Q. Did you have to strike a match to see what the readings were, or could you see?—A. No, I couldn't see.

4560. Q. How long were you away from the bridge on the second occasion, when you went back to take the readings?—A. About two minutes, I think.

4561. Q. And with the exception of those two occasions when you left the bridge, you were on the bridge continuously from 12 o'clock until the collision?—A. Yes, sir.

4562. Q. When did you first see the lights of the *Empress* with reference to the times when you left the bridge? Can you fix the time?—A. I saw the lights of the *Empress* before I went down the first time.

4563. Q. What lights were first visible from the *Empress*?—A. Her masthead lights.

4564. Q. What was the first coloured light that you saw?—A. A green light.

4565. Q. Where was the green light bearing from you; which bow was she on?—A. Port bow.

4566. Q. The green light showed on the port bow?—A. Yes, sir.

4567. Q. Can you tell approximately how many points on the port bow?—A. No, sir.

4568. Q. Do you know what the compass course of your steamer was when the white masthead lights first became visible?—A. No, not that time.

4569. Q. When did you first notice your compass course after the *Empress* was in sight?—A. That time I went to the compass, the fog came.

4570. You didn't go to the compass at all until the fog came up?—A. Oh yes, I may have been there.

By Lord Mersey:

4571. Q. But you do not remember what you saw?—A. No, sir.

By Mr. Haight:

4572. Q. When you saw the green light of the *Empress*, as nearly as you can judge, how far away was she from you?—A. The green light the first time?

4573. Q. When you saw the green light the first time.—A. I can't tell you exactly, but I suppose it was about six or eight miles.

By Lord Mersey:

4574. Q. Tell me what was the first coloured light that you saw on the *Empress*? A. A green light.

4575. Q. How far away was she when you saw that light?—A. I saw the green light about five miles away.

By Mr. Haight:

4576. Q. About how long was it after you saw the masthead lights, before you saw the green light?—A. Oh, I don't know.

4577. Q. It was some little time; the white light showed first?—A. That time I went aft, I could only see her masthead lights.

4578. Q. After you saw the green light of the *Empress* did you see any change in the coloured lights?—A. Yes, sir.

4579. Q. Please state what change you saw.—A. Can I have an interpreter?

SAXE.

Mr. HAIGHT.—Well, you can have an interpreter if you want to.

A. (Through interpreter.) When I saw the *Empress* first I saw both masthead lights and no more. After I came back from hauling in the log I saw the green light on the port side. A little after, I cannot say exactly the time, I saw two masthead lights and both side lights. The green disappeared and I got the red one about a point or two points on the port bow.

By Mr. Haight:

4580. Q. That is, when the *Empress* shut out her green light and showed red, the red appeared to you a point and a half or two points on your port bow?—A. Yes, sir.

4581. Q. You were then showing her red to red?—A. Yes, sir.

4582. Q. How long did the two vessels continue to approach showing red to red?—A. About a couple of minutes.

4583. Q. Then what happened?—A. Then the fog came.

4584. Q. Which vessel was enveloped in the fog first?—A. The *Empress*.

4585. Q. How far away from you do you think the *Empress* was when the fog shut her out from view?—A. Between two and three miles, I can't exactly say.

4586. Q. Had you noticed the range lights of the *Empress* when she was showing you her green light?—A. Yes, sir.

4587. Q. Did you notice a change in the range lights of the *Empress* as she changed and showed first the two lights, and then the port light?—A. Yes, sir.

LORD MERSEY.—There would necessarily be a change, Mr. Haight.

Mr. HAIGHT.—There would, sir, I wanted to show only that he had noticed both.

4588. Q. Did you, either before or after the fog shut in, look at your compass?—

A. When the fog came then the fog shut the *Empress* out, and then I heard a long blast.

4589. Q. When did you look at the compass? Never mind the whistles yet?—A. Not at that moment.

4590. Q. Did you look at the compass at any time?—A. Yes, sir.

4591. Q. When?—A. After I heard the second long blast from the *Empress*.

LORD MERSEY.—That tells me very little.

Mr. HAIGHT.—Yes, my Lord, I realize that that does not tell us much.

4592. Q. After the fog shut you out, what whistles did you hear, if any, from the *Empress*?—A. One long blast.

LORD MERSEY.—If you don't mind me making the suggestion, Mr. Haight, I think it would be very much better if you came down here and asked your questions slowly, with the witness close to you. He might understand you much better than he seems to do, and if he could answer them as they are asked, in English, I would much prefer it.

Mr. HAIGHT.—Yes, my Lord, I will do so.

4593. Q. Now if you don't understand any question, I will try to repeat it and explain it to you, but we will all of us talk English, such as we can. How long was it after the fog shut out the *Empress* that you heard the whistle from her?—A. Immediately after.

4594. Q. And what whistle did she blow?—A. She blew one long blast.

LORD MERSEY.—Let us go step by step.

4595. Q. What does one long blast mean?—(No answer).

4596. Q. Do you speak German?—A. Ja wohl, mein Herr.

(At this point Lord Mersey asked a few questions of the witness in the German language, and was answered in the same tongue).

LORD MERSEY.—The witness answers that one long blast means: I am going straight on my course.

SESSIONAL PAPER No. 21b

By Mr. Haight:

4597. Q. After the *Empress* blew one long blast, did the *Storstad* blow a whistle?
—A. Yes, sir.
4598. Q. Who pulled the whistle-cord then?—A. The Chief Officer.
4599. Q. Did you hear any other whistle signal from the *Empress*?—A. Yes, sir.
4600. Q. What whistle was that?—A. One long blast.

By Lord Mersey:

4601. Q. Still meaning: I am keeping on my course?—A. Yes, sir.

By Mr. Haight:

4602. Q. Did the *Storstad* blow after the second whistle from the *Empress*?—
A. Yes, sir.
4603. Q. What whistle did the *Storstad* blow?—A. One long blast.

By Lord Mersey:

4604. Q. The same thing?—A. Yes.

By Mr. Haight:

4605. Q. Who pulled the whistle cord then?—A. I did.
4606. Q. Do you know whether any order was given on the telegraph to your engine room when the fog first shut out the *Empress*?—A. Yes, sir.
4607. Q. What signal was that?—A. Slow.
4608. Q. Do you know what the next signal was that was rung on the telegraph?
—A. To the engine room?

COUNSEL.—Yes.—A. Yes, stop.

4609. Q. Do you know when that signal was given?—A. I don't know exactly when, but it was about that time we blew our third blast, our third long blast.

4610. Q. Well, I have only gotten two blasts so far—two blasts blown by the *Storstad*, and I do not think you have mentioned the third one yet. When was the stop order given with reference to the second signal of one whistle which was the one that yourself pulled? Was it after that?—A. That time I pulled the second time—the first blast from the *Storstad* the chief officer pulled, and after that I pulled the second time, and gave the signal on the telegraph to the engine to stop.

4611. Q. Can you tell how much time there was between the first signal of one whistle blown by the *Empress* and the second signal of one whistle? The *Empress* blew one whistle twice—now how much time was there between those two whistles?—
A. I didn't look at a watch but I expect about two minutes.

4612. Q. Did it appear to you to be about the usual interval, the usual time between fog whistles?—A. Yes, sir.

4613. Q. After the *Empress* had blown one whistle twice, what was the next signal that you heard her blow?—A. I don't know exactly if I heard one long blast one time more. The next I exactly know is three short blasts.

4614. Q. That is, you heard one whistle blown either two times or three times?—
A. Yes.

4615. Q. You are not quite sure which?—A. No, I am quite sure of two times.

4616. Q. But after you had heard a whistle signal of one long blast, either two or three times, what was the next signal that she blew after that?—A. Three short blasts.

By Lord Mersey:

4617. Q. Was she still in the fog?—A. Yes.
4618. Q. Now, what do three short blasts mean?—A. Going astern.

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By Mr. Haight:

4619. Q. What whistle was blown on the *Storstad* after you heard the *Empress* blow the first signal of three whistles?—A. One long blast.

4620. Q. What was the next signal which you heard blown by the *Empress*?—A. Three short blasts.

By Sir Adolphe Routhier:

4621. Q. The second time?—A. The second time, yes.

By Mr. Haight:

4622. Q. And was the whistle on the *Storstad* blown in answer to that?—A. Yes, I don't know how many times.

By Lord Mersey:

4623. Q. What did you blow on the *Storstad*?—A. One long blast.

4624. Q. When you heard the second three short blasts from the *Empress*?—A. Yes.

4625. Q. You blew one long blast?—A. Yes.

4626. Q. Meaning that you were keeping on your course?—A. Yes.

By Mr. Haight:

4627. Q. How many times did you hear the *Empress* blow a signal of three short blasts?—A. Two times.

4628. Q. Now did you at any time while these whistles were being blown look into your compass to see what course your steamer was heading on?—A. Yes, sir.

4629. Q. When was it that you looked into your compass?—A. From that time I blew the first long blast.

4630. Q. The first one that you pulled the cord on?—A. Yes.

4631. Q. That was the second long blast?—A. Yes, the second long blast on the *Storstad* from that time I was at the compass.

4632. Q. Now where is the whistle pull with reference to the compass?—A. At the compass.

4633. Q. So as you stood with the whistle pull in your hand you were at the compass?—A. Yes.

4634. Q. How far away from it?—A. Close to it.

4635. Q. When you looked into the compass how was the *Storstad* heading—what was the compass course when you first looked into the compass?—A. West by south, half south.

4636. Q. That is what course magnetic?—A. It would be west by south.

4637. Q. That is you have a half point to correct for the deviation?—A. Yes, I don't know exactly how much the deviation was at that time.

4638. Q. It might have been a few minutes one way or the other, but is half a point about right?—A. Yes. I have nothing to do with the navigation.

4639. Q. Well, the compass then showed a course west by south by half south?—A. Yes, sir, west by south, half south.

4640. Q. Did you hear an order given to the man at the wheel while these signals were being exchanged?—A. Yes, sir.

4641. Q. When was it that the order was given?—A. I don't know exactly.

4642. Q. I don't mean the minute but was it before or after any one of these whistles? What was the last whistle you had heard from the *Empress* when you heard the order given to the man at the wheel?—A. Three short blasts.

4643. Q. And which of the three blasts signals was it, the first or the second?—A. The first time.

4644. Q. When you heard the first signal of three whistles, you heard the Chief officer give some order to the helmsman?—A. Yes, sir.

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4645. Q. Now what was the order?—A. A little port.

4646. Q. Have you seen it executed?—A. Yes, sir.

By Sir Adolphe Routhier:

4647. Q. To port?—A. Yes, a little port.

4648. Q. The helm?—A. Yes.

By Mr. Haight:

4649. Q. Please state just what was done with the wheel after the chief officer gave the order to port?—First it was put over some?—A. It was put over to starboard.

4650. Q. That is porting your wheel, is it?—A. Yes, sir.

4651. Q. Did the ship change her course?—A. No, sir.

4652. Q. Were you looking in the compass?—A. Yes, sir.

4653. Q. What did you do next?

By Lord Mersey:

4654. Q. Wait a moment at this point—you say the man at the wheel tried to port the helm, and you say the ship didn't answer?—A. No.

4655. Q. Were you surprised when it didn't answer?—A. No.

4656. Q. It didn't answer, I understand, is that right?—A. It didn't answer.

4657. Q. Well, were you surprised when it didn't answer?—A. No, I was not.

By Mr. Haight:

4658. Q. Why were you not surprised?—A. The engines were stopped.

4659. Q. How long had they been stopped?—

LORD MERSEY.—Wait a minute—your engines were stopped, were they?—A. Yes, sir.

By Mr. Haight:

4660. Q. How long had they been stopped when the Chief Officer ordered the wheel ported?—A. A few minutes.

By Lord Mersey:

4661. Q. Well now, if your engines had been stopped a few minutes, you knew it was no use porting your helm?—A. No.

4662. Q. If your engines had been stopped for a few minutes, did you think it was any good porting your helm?—A. The mate gave the order to do it.

4663. Q. I know he did, but you say the ship didn't answer?—A. No.

4664. Q. He knew the engines had been stopped for some minutes, didn't he?—A. Yes.

4665. Q. What did he port his helm for? Why did he port his helm?—A. The chief mate ordered the wheel to be ported.

4666. Q. But why did he order it to be ported?—A. I didn't ask him why.

4667. Q. I dare say you did not ask for a reason, but what do you suppose the reason was?—A. I thought it was for the current.

By Mr. Haight:

4668. Q. After the Chief Officer had ordered the wheel ported, how far was it actually put over? was it put half over or hard over?—A. About half over.

4669. Q. And when the wheel was half over were you able to see the compass?—A. Yes, sir.

4670. Q. Had she changed her heading any?—A. No, sir.

4671. Q. She was still heading how?—A. West by south, half south.

4672. Q. And was the wheel ported any more?—A. Yes, sir.

4672(a). Q. Who put the wheel over at last?—A. I did.

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4673. Q. And how much did you put it over then?—A. Hard a port, sir.

4674. Q. After you had put the wheel hard a port, did you look at the compass?—A. Yes, sir, I was with the compass all the time.

4675. Q. After the wheel had been put hard over, did you see any change in her course?—A. No, not at all, sir.

4676. Q. After you had put it hard over and she was still heading on the same course, was any whistle blown by the *Storstad*?—A. Yes, sir.

4677. Q. Who pulled the cord?—A. I did.

4678. Q. What signal did you blow?—A. Two long blasts.

By Lord Mersey:

4679. Q. Now what did that mean?—A. That meant: we are lying still.

By Mr. Haight:

4680. Q. After you had blown a signal of two whistles, indicating that you had no steerage way, did you hear any order rung in on the telegraph?—A. Yes, sir.

4681. Q. Do you know what that order was?—A. No.

4682. Q. Did you see the disk of the telegraph at that time?—A. No.

4683. Q. Did you feel any vibration of your engines giving you an idea of what the order was?—A. Yes.

4684. Q. What did you think that order was?—A. I was feeling that the ship went ahead—that the engines went ahead, and I could hear them.

4685. Q. You could hear the engines moving too?—A. Yes.

4686. Q. Could you tell whether she had been started slow or full speed?—A. On slow.

4687. Q. Were you still standing at the compass?—A. Yes, sir.

4688. Q. Was your wheel still hard over?—A. Yes, sir.

4689. Q. Did you know when the chief officer whistled down through the tube to call the captain?—A. No, I did not.

4690. Q. Did the captain come on deck while you were there?—A. Yes.

4691. Q. Now, when did the captain come up on to the bridge?—A. Just after the engines started to go again.

4692. Q. That is after you had blown two?—A. Yes, sir.

4693. Q. And after the telegraph had been rung slow ahead?—A. Yes.

4694. Q. The master came to the bridge?—A. Yes.

4695. Q. Which side of the bridge did the captain come up on?—A. On the starboard side.

4696. Q. What did he do when he first came to the bridge?—A. He went to the compass.

4697. Q. Were you then at the compass?—A. Yes, sir.

4698. Q. Did the captain look into the compass?—A. Yes, sir.

4699. Q. How close was he to you?—I went away for him when he came.

4700. Q. You stood aside to let him look into the compass?—A. Yes.

4701. Q. Now, what happened next?—A. Then the captain went farther on the bridge, to the telegraph.

4702. Q. When did you first see the *Empress* coming out of the fog?—A. Immediately after the captain came on deck.

4703. Q. And what did you first see of her?—A. The masthead light.

4704. Q. And where did the masthead light bear from you, on which side?—A. On the port side.

4705. Q. How many points do you think it was on the port side?—A. About three or four points.

4706. Q. Did you subsequently see any coloured lights?—A. Not at that time.

4707. Q. Did you later see the coloured lights?—A. Yes, sir.

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By Lord Mersey:

4708. Q. Before you come to that, I want to know how far in your opinion the *Empress* was when you first saw her after the captain came on the bridge—how far was the *Empress* away from you?—A. Oh, about a couple of hundred yards.

4709. Q. That is 600 feet?—A. Well, I couldn't tell you.

By Mr. Haight:

4710. Q. Can you express it in lengths of your ship? How many lengths of your ship was the *Empress* away from you?—A. Oh, about a ship's length or two.

4711. Q. One or two ship's lengths?—A. Yes, sir.

4712. Q. After you had first seen her did you then see a coloured light, a side light, on the *Empress*?—A. Yes, but not at once.

4713. Q. Not at once—now what coloured light was it?—A. A starboard light.

4714. Q. What colour?—A. A green light.

4715. Q. How soon after you saw the white light was it that you saw the green?—A. Immediately after.

LORD MERSEY.—But this is no use to me. In all that excitement these things must have occurred almost instantly.

MR. HAIGHT.—Of course they must, my Lord, the witness says almost immediately after.

LORD MERSEY.—There is no use asking him to say a second after. And two seconds after. Everything that takes place now takes place in a few seconds.

MR. HAIGHT.—Yes, my Lord.

4716. Q. Where were you standing when you first saw the green light, Mr. Saxe?—A. At the compass.

4717. Q. Did you then see your heading? Do you know how your ship was then heading?—A. Yes, the course.

4718. Q. Had the course changed any?—A. No, sir.

By Lord Mersey:

4719. Q. Do I understand that although you put your helm to port, and afterwards put your helm hard-a-port, the course of your ship was not affected in the least, is that true?—A. That is true.

By Sir Adolphe Routhier:

4720. Q. No change?—A. No change at all.

By Lord Mersey:

4721. Q. Your engines had commenced to go ahead?—A. Just at that moment, yes.

By Mr. Haight:

4722. Q. When the white light of the *Empress* first showed did you hear any signal rung into the engine room by the Captain?—A. No, sir.

4723. Q. Did he ring a signal more than once?—A. Yes, three or four times. I could see it.

4724. Q. Do you know what the signal was?—A. Yes, sir.

4725. Q. What was it?—A. Full speed astern.

4726. Q. Could you feel your engines vibrate?—A. Yes, sir.

4727. Q. How long do you think your engines had been running slow ahead before the master rang the telegraph full speed astern?—A. I cannot tell you, but I think it must have been only a few seconds, because immediately after the captain came on deck—just at that moment.

LORD MERSEY.—I don't understand this.

MR. HAIGHT.—As I understand it, it corresponds reasonably with the rest of the witnesses.

4728. Q. Now, as you state that you first saw the green light, did you notice any movement of the green light?—A. Yes, sir.

4729. Q. Which way was the green light moving?—A. From over across our bow.

4730. Q. From left to right?—A. Yes, from port to starboard.

4731. Q. How fast was that green light moving? Could you form any judgment as to what the speed of the *Empress* was?—A. Oh, no, I couldn't.

4732. Q. Well did she appear to you to be going at a fair speed or almost dead stopped?—A. Oh no.

By Lord Mersey:

4733. Q. Can you form an idea as to the speed at which the *Empress* was moving through the water when you saw her green light?—A. A good speed.

4734. Q. A good pace?—A. Yes.

4735. Q. What do you mean by a good pace—I don't know what you mean by that—what do you mean by a good speed?—A. I don't know how fast she was going.

4736. Q. Then you don't know what you mean by a fast speed?—A. Not exactly, no.

By Sir Adolphe Routhier:

4737. Q. Did you say a good pace or a good speed?—A. A good speed.

LORD MERSEY.—It is exactly the same thing.

By Mr. Haight:

4738. Q. Can you give it in knots?—A. No, I don't think I can.

LORD MERSEY.—At all events, Mr. Haight, you have it that according to him the *Empress* was moving forward?

MR. HAIGHT.—Yes, my Lord.

By Mr. Haight:

4739. Q. Please give in knots, as well as you can, the speed which you think the *Empress* was moving across your bow when you saw the green light?

LORD MERSEY.—Well, Mr. Haight, if I were you I wouldn't ask him that, because if he were to tell me, that in the circumstances in which he was placed he formed an opinion on that question, I should have the greatest difficulty in believing him.

MR. HAIGHT.—I am asking him, my Lord, if he can form an opinion now from what he then saw, not if he formed an opinion at that moment.

LORD MERSEY.—Well, if he didn't form an opinion then, I don't think his opinion now would be worth anything at all. That is my view, and I suggest it to you. I don't think you can get anything very much more from him on the question of the speed of the *Empress*. Those are circumstances under which a man could hardly form an opinion.

MR. HAIGHT.—No man can do more than give an opinion at any rate. I do not expect any accurate observation at such a time.

By Mr. Haight:

4740. Q. When his engines were put full speed astern by the master did you blow any signal on the whistle?—A. The captain said to me I should blow three short blasts.

4741. Q. And did you blow three short blasts?—A. I blowed them, yes, sir, at the same time.

4742. Q. Were you still on the bridge when the vessels came in contact?—A. Yes, sir.

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4743. Q. From the time that you first heard the signal of one long whistle from the *Empress* up to the time that the vessels actually struck did you hear any signal of two whistles?—A. No, sir.

4744. Q. Are you sure about that?—A. I am sure, quite sure.

4745. Q. Captain Kendall has testified that he blew three signals twice, but that he also blew two signals of two whistles each. Are you quite sure you heard no signal of two whistles?—A. I have not heard anything.

4746. Q. Do you think you heard all the whistles that were blown before the collision?—A. I think so.

4747. Q. How long did you stay on the bridge after the vessels came together?—A. At the time the vessels came together the captain gave me orders to make the boats clear.

By Lord Mersey:

4748. Q. To do what?—A. To make the boats clear, my Lord.

By Mr. Haight:

4749. Q. Where did you go to make the boats clear?—A. To the boat deck.

4750. Q. Aft or forward?—A. Amidships.

4751. Q. How long did it take you to get your boats clear?—A. About three minutes.

4752. Q. Were the four boats manned in that time or were they simply got clear of their lashings?—A. Cleared and swung out on the davits.

4753. Q. How long did it take you to get the crews ready to stand by?—A. The crew was there at that time.

4754. Q. Did you hear the whistle of the *Storstad* sounding after you went aft to get your boats ready?—A. Yes, sir.

4755. Q. Did you get any answer from the *Empress*?—A. I haven't heard it.

By Chief Justice McLeod:

4756. Q. You did or did not hear it?—A. I did not.

By Mr. Haight:

4757. Q. When the boats came together how much of a jar was there in the collision, were you set off your feet at all?—A. No.

4758. Q. Before you left the bridge to go aft could you see whether after the boats came together there was any change in the heading of the *Storstad*?—A. Yes.

4759. Q. And what change did you notice?—A. She went together with the *Empress*.

4760. Q. Yes, but did you see whether the *Storstad* was swung one way or the other from her course?—A. She swung the same way, she swung around with the *Empress*.

4761. Q. Which way did the *Storstad's* bow swing?

LORD MERSEY.—The *Storstad's* bow was sticking in the side of the *Empress*. If you asked him which way did her stern swing I should understand better.

By Mr. Haight:

4762. Q. Which way did the stern of the *Storstad* swing after the *Storstad* and the *Empress* came together?—A. To the port side.

By Lord Mersey:

4763. Q. Now you know what we are asking you?—A. Yes, sir.

4764. Q. Which way—if you saw it, I don't know whether you saw it or not—A. Yes, sir, I saw it.

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4765. Q. When the *Storstad* struck the *Empress* which way did the stern of the *Storstad* swing? Did she swing at all?—A. After the *Empress* had struck?

4766. Q. Yes, the moment it struck. Here is the *Storstad* (taking the two models) running into the *Empress*.. There is the stern, which way did the stern swing, that way or this way?—A. The first way.

4767. Q. Then the stern swung round to port?—A. Yes.

By Mr. Haight:

4768. Q. Did you before you left the bridge hear any hail from the *Empress* to the bridge of the *Storstad*?—A. Yes.

4769. Q. What did you hear?—A. Somebody shouted out: Don't go astern. They shouted down two or three times.

By Lord Mersey:

4770. Q. From the *Empress*?—A. From the *Empress*.

By Mr. Haight:

4771. Q. Did the captain of your boat make any reply?—A. Yes, sir.

4772. Q. Please speak out, every one wants to hear you. What was the captain's answer?—A. No, I won't, I am going full speed astern, I mean full speed ahead.

4773. Q. Did you hear any order rung on the telegraph immediately after the vessels came together?—A. Yes, sir.

4774. Q. Could you tell what change was made in the motion of your engines?—A. Yes.

4775. Q. How did they go then?—A. Ahead.

4776. Q. And was it then that your captain, replied that he was going full speed ahead?—A. In the same moment.

By Sir Adolphe Routhier:

4777. Q. What was the consequence of the order full speed ahead?—A. The ship went ahead, the engines started to go ahead.

4778. Q. What was the consequence of that going ahead full speed?—A. I could not see that at that time, I went down to the boat deck to make the boats clear.

By Lord Mersey:

4779. Q. You were busy with the boats?—A. Yes.

By Mr. Haight:

4780. Q. What was the last you saw of the *Empress*? Did you see her again after you left the bridge to get the boats ready?—A. Yes, sir.

4781. Q. Where was she then?—A. On the port side, aft on the port quarter.

4782. Q. That was just before the rescue, that was some time later?—A. Yes, sir.

4783. Q. What was it that first gave you information as to where the *Empress* was? How did you first learn where the *Empress* was?—A. After the collision?

4784. Q. Yes, after the collision?—A. I heard cries.

4785. Q. From the people in the water?—A. Yes, sir.

4786. Q. Were your boats then lowered?—A. Lowered to the deck.

4787. Q. Were your boats put into the water?—A. Not at that time. It was after that time we put them in the water.

4788. After you heard cries what was done on your boat?—A. The captain gave orders to man the boats and lower them down at once.

4789. Q. Did you try to get closer to the *Empress*?—A. Yes, the boat came closer to the *Empress* that time.

4790. Q. And when your boats were finally lowered into the water how far was the *Storstad* from the *Empress*?—A. But I cannot tell you that exactly.

SAXE.

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4791. Q. Did you take command of one of the boats?—A. Yes, sir.

4792. Q. How long did it take you to row from the *Storstad* to the *Empress*, or to where the people were in the water? Was the *Empress* still afloat?—A. Yes, sir.

4793. Q. When you got over in your boat you could see the *Empress* still afloat?—A. Still afloat, yes.

4794. Q. And how far do you think it was in lengths of your steamer, say from the *Storstad* to the *Empress*?—A. Oh, I suppose it was between one and two ship's lengths from the *Storstad*.

By Lord Mersey:

4795. Q. Let me understand that (taking the models again) you had driven into the *Empress* in this way and you swung round in that way?—A. Yes.

4796. Q. Did you then separate from the *Empress*?—A. I don't know at that time; I was on my boat deck.

4797. Q. But the ships had got separated?—A. Yes.

By Mr. Haight:

4798. Q. But when you next saw them the *Storstad* was two ships' lengths away from the *Empress*?—A. Between one and two; I cannot say exactly.

4799. Q. That between one and two ships' lengths you talk about is your own ship's lengths?—A. Yes.

4800. Q. And you went in one of the boats towards the still floating *Empress*?—A. Yes.

4801. Q. Did you actually pick up some people before the *Empress* sank out of sight?—A. Yes.

4802. Q. How soon did the *Empress* go down after you began to pick up the people?—A. That time I did not look at the boats; I cannot tell you.

4803. Q. It was only just a very short time after you got there that she went down?—A. I got few peoples in the boat at that time she went down.

4804. Q. How many people did you pick up on your first trip?

By Lord Mersey:

4805. Q. Does this matter very much? There is no reflection on the men of either boat in that respect.

By Mr. Haight:

4806. Q. Very well, my Lord. How many trips did you make?—A. Three trips.

4807. Q. Did you get living people on your third trip?—A. Yes.

4808. Q. You picked up people who were still alive on your third trip?—A. Yes.

4809. Q. Will you please place the models in the position that the vessels were in when they actually came together, in contact when the collision happened. Use the larger model for the *Empress* and the smaller model for the *Storstad*.

(Witness then placed the models on a piece of paper and marked their positions thereon with a pencil.)

By Lord Mersey:

4810. Q. Have you drawn them on the paper?—A. Yes.

4811. Q. Very well, let us see them.

The paper was then handed to his Lordship.

LORD MERSEY.—I think that is very much like what the Captain drew.

MR. HAIGHT.—Very much, but seeing that he was the officer on the bridge I thought he should show his idea.

LORD MERSEY.—Let it be marked.

The exhibit was thereupon marked *Storstad* No. 11.

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By Mr. Haight:

4812. Q. I omitted to ask you, as you heard the various whistle signals blown by the *Empress* on which side of your vessel did the whistles bear?—A. On the port side.

4813. Q. Did you hear any whistle signal blown by the *Empress* before the vessels came together which sounded from your starboard bow?—A. No, sir.

LORD MERSEY.—Mr. Newcombe, where is the log of the *Storstad*?

MR. NEWCOMBE.—It is here, my Lord, I have had a translation of it made, and I gave the book to Mr. Haight with the translation in order to have it verified.

MR. HAIGHT.—I am exceedingly sorry to say that last night I did not have the opportunity to verify the translation.

LORD MERSEY.—You may assume that the translation is all right. Tell me, Mr. Newcombe who has had possession of this log since the accident.

MR. NEWCOMBE.—Within a few days after the accident this log was turned over to Captain Lindsay, our officer, who was appointed to conduct the preliminary examination, and it has been in the hands of the officials of the Marine Department ever since, until the night before last when I gave it to my friend to see that the translation that had been made was satisfactory to him before putting it in. I intended to put it in yesterday but it was overlooked.

LORD MERSEY.—I am asking you as counsel conducting this inquiry whether it is the practice for the Government whom you represent on occasions such as these to produce that log for the information of the court?

MR. NEWCOMBE.—Oh, certainly, my Lord.

LORD MERSEY.—Then it ought to be produced at this point, and I shall ask you to hand the translation of the original log to Mr. Aspinall so that he may read it. Have you seen it, Mr. Aspinall

MR. ASPINALL.—We have had a copy made of the translation, my Lord.

LORD MERSEY.—Oh, very well, you have had a copy. I think you must deal with this log, that is to say you must assume that we are going to, and any observations that you desire to make upon it you will make, and you will of course if you think fit, that is your business, make when you cross-examine the man who kept the log upon it. Now I think we will rise and you shall cross-examine this witness to-morrow.

The commission thereupon adjourned until 10 a.m. Saturday, June 20.

QUEBEC, SATURDAY, June 20, 1914.

FIFTH DAY.

The Commissioners appointed by the Honourable John Douglas Hazen, the Minister of Marine and Fisheries of Canada, under Part X of the Canada Shipping Act as amended, to inquire into the casualty to the British Steamship *Empress of Ireland*, in which the said steamship, belonging to the Canadian Pacific Railway Company, was sunk in collision with the Norwegian Steamship *Storstad*, in the River St. Lawrence, on the morning of Friday, the 29th day of May, 1914, met at Quebec this morning, the twentieth day of June, 1914.

LORD MERSEY.—Is the witness here?

MR. HAIGHT.—Yes, my Lord.

SAXE.

SESSIONAL PAPER No. 21b

JACOB SAXE, 3rd officer, *Storstad*. Examination resumed.

Mr. ASPINALL.—My Lord, I do not propose to take this gentleman in great detail through the story again, as I have put my case through the other witnesses. But I am afraid I shall be a little longer than I wished, as his evidence seems to be of importance.

4814. Q. How much do you get paid a month as wages?—A. 100 Norwegian kronen.

By Lord Mersey:

4815. Q. That about five pounds a month?—A. \$27.

By Mr. Aspinall:

4815½. Q. You understood my question?—A. Yes, sir.

4816. Q. Now, I would like to talk to you in English and to have you talk to me in English, will you?—A. I will try.

4817. Q. You seem to understand me. How long have you been on the *Storstad*?—A. Thirteen months, about that.

4818. Q. Yes, that is what you told us yesterday. Do you ever get a present if the ship, the *Storstad*, makes quick voyages?—A. No, sir.

4819. Q. Are you sure?—A. Yes, sir, I am quite sure.

4820. Q. At the end of the season, if the *Storstad* has made many voyages, and made some of them quickly, don't you get a present?—A. No, sir.

4821. Q. Will you tell me what certificate you hold—do you hold a master's certificate?—A. No, sir, a mate's.

4822. Q. How long have you held that certificate?—A. Two years.

4823. Q. Is it a Norwegian mate's certificate?—A. Yes, sir.

4824. Q. And before that were you a sailor?—A. Yes, sir.

4825. Q. And since you got that certificate have you been serving as a mate, acting as mate?—A. Not all the time.

4826. Q. Have you been serving as a sailor for some of the time since you got your mate's certificate?—A. Yes, for two months after that.

4827. Q. And the rest of the time?—A. I have been in the Norwegian navy.

4828. Q. You have been serving as a sailor in the Norwegian navy?—A. As a quarter-master.

4829. Q. And how long have you been acting as a mate of any ship? You were third mate of this ship?—A. Yes.

4830. Q. And you have been in her thirteen months?—A. Yes.

4831. Q. Have you ever been mate in any other ship?—A. Yes, second mate.

4832. Q. What ship was that?—A. A Norwegian ship.

4833. Q. A steamer?—A. Yes.

4834. Q. And how long were you serving as second mate on that steamer?—A. About a month.

4835. Q. Have you a good memory, Mr. Saxe?—A. Yes, sir.

4836. Q. Well now, on the night in question—you remember you said you had nothing to do with the navigation? You said that yesterday?—A. Yes, sir.

4837. Q. What were your duties on the bridge? What had you to do on the bridge?—A. I had to keep a look-out on the bridge.

4838. Q. Anything else?—A. Not that night.

4839. Q. You had nothing else to do that night but to keep the look-out?—A. No.

4840. Q. Now, you seem to have seen a great many things, to have noticed a great many things and heard a great many things, didn't you?—A. Oh, yes.

4841. Q. You did. You have told us the whole story and everything about it, have you not?—A. Yes, all that I know about it.

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4842. Q. Well, you know all about it, don't you. . . . you didn't miss much that night, did you?—A. No, I told all I know about the story.

4843. Q. Well, now then, have you ever been in charge of the *Storstad* yourself?—A. Yes, sir.

4844. Q. When were you in charge of her yourself?—A. That time we came over from Europe the last time.

4845. Q. Coming out from Europe you say you took charge of the *Storstad* by yourself for a time?—A. Yes.

4846. Q. At night?—A. Oh, yes.

4847. Q. Was it on the twelve to four watch at times, the middle watch?—A. Oh, yes.

4848. Q. You did? Are you ever left in charge in the River St. Lawrence on her?—A. No, sir.

4849. Q. If the master is not on the bridge and you see fog in the river, is anything done with regard to the master?—A. Yes.

4850. Q. What?—A. I have to call him.

4851. Q. You have to call him?—A. Yes.

4852. Q. That would be your duty, would it?—A. Oh, yes.

4853. Q. Was he called on the night of this collision?—A. Yes, he was called.

4854. Q. I suppose it was easy to call him?—A. I don't know, I didn't call him that night.

4855. Q. Oh, you didn't call him that night?—A. No.

4856. Q. Who did call him?—A. The chief mate.

4857. Q. How did he call him?—A. I think through the speaking-tube.

4858. Q. Is there a speaking-tube there?—A. Yes.

4859. Q. So it is quite easy to have him up?—A. Oh, yes.

4860. Q. You only take that whistle down and he will come up?—A. Yes.

4861. Q. He was only called there on the night of the collision a few seconds before the collision occurred?—A. I don't know what time he was called.

4862. Q. You say you don't know what time he was called?—A. No, sir.

4863. Q. Do you mean that you did not see the chief mate go to the whistle to call him?—A. No, sir, I didn't see him.

4864. Q. Did you see the captain come up on the bridge?—A. Yes.

4865. Q. When he came up on the bridge that was only a few seconds before the collision happened, was it not?—A. Oh, yes; immediately before.

4866. Q. Do you know why he was not called sooner?—A. Oh, I think it was foggy.

4867. Q. You think it was foggy?—A. I think it was while it was foggy.

LORD MERSEY.—Wait a moment. . . . he misunderstood your question, Mr. Aspinall.

MR. ASPINALL.—Does your Lordship think he did not understand?

LORD MERSEY.—I don't think he did, because I don't think that is an answer to your question. Your question, you know, was why he was not called sooner, and then he answered, because it was foggy. Now that is not really an answer to your question.

By Mr. Aspinall:

4868. Q. Have you now heard the question, Mr. Saxe?—A. I didn't understand it.

LORD MERSEY.—Just listen to me.

4869. Q. The question you were asked is this: do you know why the captain was not called up on the bridge sooner, earlier. . . . do you know why?—A. I don't know.

By Mr. Aspinall:

4870. Q. On other occasions when you had fog, is he called when you see the fog coming on?—A. I have always done it when I have been in charge of the ship.

4871. Q. When, when you see the fog coming on?—A. Yes.

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4872. Q. That is the right time, isn't it?—A. Oh, yes.

4873. Q. That is the proper thing to do?—A. Yes.

4874. Q. Well now, I am not going to ask you a great many questions about what you saw, Mr. Saxe, but I must ask you a few, and I am going to take you to the time when you heard the *Empress* give three short blasts, do you remember?—A. What time it was?

4875. Q. No, not the time, because you don't know the time, but do you remember hearing those three blasts?—A. Yes, sir.

LORD MERSEY.—That is the first three blasts you are referring to, Mr. Aspinall?

Mr. ASPINALL.—Yes, my Lord, the first signal of three blasts.

The WITNESS.—The first time she didn't blow three blasts.

By Mr. Aspinall:

4876. Q. I know you say that the first time she didn't blow three blasts. Let me remind you of your evidence. . . . you say you first heard her blow one long blast, is that right?—A. Yes, sir.

4877. Q. Then a second long blast?—A. Yes, sir.

4878. Q. And maybe possibly a third long blast? Is that right?—A. Yes, sir, but I can't tell you for certain.

4879. Q. And then you said after that you heard her blow three short blasts, is that right?—A. Yes, sir.

4880. Q. When you heard her blow these short blasts how long after that do you think the collision happened, five or six minutes?—A. It may be about that, but I can't tell you.

4881. Q. Some minutes afterwards? Some minutes later?

LORD MERSEY.—Please answer by saying yes or no, because all your answers have to be written down, and they cannot write down nods. So be sure and say yes or no.—A. Yes, sir.

By Mr. Aspinall:

4882. Q. Your answer to my question is yes, is it not?—A. Yes.

4883. Q. And three short blasts, as you told us yesterday, mean: I am reversing my engines?—A. Yes, sir.

4884. Q. And later you heard her blow three short blasts again?—A. Yes, sir.

4885. Q. When you saw her you told us that she was moving through the water?—A. Yes, sir.

4886. Q. Did that surprise you?—A. Yes.

4887. Q. If she had been reversing her engines, as her whistles told you, she ought to have been stopped, ought she not?—A. Yes.

4888. Q. And when you saw her she was going ahead?—Yes.

4889. Q. At what you called yesterday a good speed?—A. A good speed, yes.

4890. Q. You cannot say what the speed was in knots, but it was a good speed?—A. Yes.

4891. Q. Well now, would you do this for me—you remember when she came into sight, you remember seeing her?—A. Yes.

4892. Q. I want you to do something for me. Here are two models, that big one is the *Empress*, and that little one is the *Storstad*, do you see?—A. Yes.

4893. Q. Now you are on the *Storstad*, you see?—A. Yes.

4894. Q. Now I want you if you will to put these two things on a bit of paper and put them in such a way as to show me where the *Empress* was when you saw her? Do you understand?—A. Yes, sir.

4895. Q. You do understand?—A. Yes, sir.

4896. Q. And do it as carefully as you can, please?—A. I will try.

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4897. Q. But before you do it, let me ask you this: how many ship's lengths—your lengths—was the *Empress* from you when you saw her?

WITNESS.—The first time?

4898. Q. No, how many ship's lengths was she from you when she came out of the fog?—A. Oh I can't tell you exactly, but I think it must have been between one and two ship's lengths.

4899. Q. Yes, I think that is what you said yesterday. Now, remember that when you are putting these models on the paper. Try and get them at the distance of a ship's length.

LORD MERSEY.—I think you had better take it at one and a half ship's lengths, that is between one and two?—A. Yes.

4900. Q. Have you room on that piece of paper?—A. Oh, I think so.

4901. Q. Have you marked them on the paper with pencil?—A. Yes, sir.

Sir ADOLPHE ROUTHIER.—Please write the names on?—A. Yes, sir.

By Chief Justice McLeod:

4902. Q. Can you mark the course your ship was then making?—(No answer.)

LORD MERSEY.—Do you understand?—A. No, sir.

4903. Q. How was your ship heading at that time?—A. West by south, half south.

LORD MERSEY.—Can you tell us, Mr. Haight, if you think the deviation makes any difference, I mean the deviation from the magnetic?

Mr. HAIGHT.—I don't think the deviation is serious enough to make any difference, my Lord. Of course there is a deviation of half a point.

LORD MERSEY.—There is, no doubt. But I think that it is really of no importance.

Mr. HAIGHT.—I don't believe it is, my Lord.

LORD MERSEY.—No, that is a very small matter.

By Mr. Aspinall:

4904. Q. When you saw the *Empress*, was she swinging under any helm?—A. I don't understand that.

4905. Q. When you saw the *Empress* coming out of the fog, did she come on straight or was she swinging?—A. I don't understand.

By Lord Mersey:

4906. Q. Do you know what is meant by the expression 'swinging'?—A. Yes.

4907. Q. Very well, when you saw the *Empress* coming out of the fog, was she swinging?—A. I only looked at her lights that time, and I can't tell you.

4908. Q. When you saw the lights, you mean the masthead lights?—A. The first time I could only see the aft masthead light.

4909. Q. You could only see one?—A. Yes.

4910. Q. And you couldn't see whether she was swinging or not?—A. No.

By Mr. Aspinall:

4911. Q. Now, you have told us that you were looking at your compass?—A. Yes, sir.

4912. Q. Why were you so closely looking at your compass?—A. I was at the cord coming down from the steam whistle, coming down to the compass. It is connected with the compass.

4913. Q. You had the cord ready, I suppose, to pull this cord if you were told to pull it?—A. Yes.

LORD MERSEY.—What cord is this?

Mr. ASPINALL.—My Lord, he means the cord which enables him to pull the whistle.

LORD MERSEY.—Oh, I see.

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By Mr. Aspinall:

4914. Q. And you were there ready to pull the whistle?—A. Yes.

4915. Q. And I suppose you were pulling the whistle?—A. Yes.

4916. Q. And all the time while you were ready to pull the whistle, and that is your business, you kept your eyes down on the compass?—A. Yes . . . not all the time.

4917. Q. Well, at all important times, you know, you seem to have been looking at this compass, that is so, isn't it?—A. Yes.

4918. Q. That is your evidence?—A. Yes.

4919. Q. And I am wondering why you were looking at your compass so closely?—A. I have all the time orders from the captain to do so in fog, to watch the steering very well.

4920. Q. Always to watch the steering in fog?—A. Yes, and not change the course.

4921. Q. And not to change the course?—A. Yes.

4922. Q. But what changes the course is not your looking at the compass, but the helmsman?—A. Yes, and then I can talk to the man at the wheel.

4923. Q. You can talk to him?—A. Yes, if he is changing her course.

4924. Q. Now were you really looking at this compass all the time? Are you sure you were looking at your compass in this careful way?—A. Yes, sir.

4925. Q. Because you know you saw a great deal, didn't you?—A. Oh yes.

4926. Q. And I should have thought if you were looking so much at your compass you might not see these other things?—A. It would take me only a moment to look at the compass.

4927. Q. You are looking at the compass and then at the lights?—A. That time she was coming, yes.

4928. Q. Now I want to suggest this to you, you had heard the whistle of a steamer, you see?—A. Yes.

4929. Q. On your port side?—A. Yes.

4930. Q. Now assume that I am the steamer . . . and I am on your port side?—A. Yes, sir.

4931. Q. And each whistle that I sound sounded nearer to you? They were getting closer and closer?—A. Yes.

4932. Q. And am I wrong in this, that you were looking out to see if I, the steamer, came in sight?—A. No, it was not my business at that time. The chief mate was on the bridge.

4933. Q. I know, but if you are in a thick fog, and hear the whistle of a steamer coming nearer and nearer on your port bow, isn't that the way in which you are looking?—A. Not all the time. I can look for the steamer at one moment and look in the compass the next moment.

By Lord Mersey:

4934. Q. Yes, I think that we understand that, but you were looking at the compass. . . . and when you were looking at the compass and looking for lights, you were thinking only of this steamer which was on your port side?—A. Yes, sir.

By Mr. Aspinall:

4935. Q. Now do you remember. . . you do remember, because you have told us that there was an order to port your helm. Do you remember the mate giving the order to port the helm?—A. A little port, he said.

4936. Q. A little port, yes, that is right?—A. Yes, sir.

4937. Q. What was that for. . . . why was that order given, do you know?—A. No, I don't know. No one told me. He only gave the order.

By Lord Mersey:

4938. Q. Don't you know why the order was given?—A. I thought I did know, but he didn't tell me.

By Mr. Aspinall:

4939. Q. What did you think...or did you think about it?—A. Oh, yes.

4940. Q. I expect you know, do you not, that you must not alter your course in a fog, that is right, isn't it?—A. Yes.

4941. Q. When you heard the order to port, did you think about that?—A. Yes, I thought about it.

4942. Q. What did you think about it?—A. (No answer).

4943. Q. You know it is wrong or dangerous to port your helm in a fog?—A. Oh, yes.

4944. Q. And your superior officer, the chief mate, gave the order to port?—A. Yes.

4945. Q. What did you think about it? Did you think it was a dangerous order?—A. No, I didn't think it was.

By Lord Mersey:

4946. Q. It was a wrong order, wasn't it?—A. No, I don't think it was wrong.

4947. Q. I thought you told Mr. Aspinall just now that in a fog you were not to alter your helm?—A. Yes.

4948. Q. Well then, if you do alter your helm in a fog, it seems to me it is wrong. Isn't it wrong?—A. I don't think so, not always.

4949. Q. You think it's not wrong?—A. Not always.

LORD MERSEY.—You must press him on this point I think, Mr. Aspinall?

MR. ASPINALL.—Yes, my Lord.

4950. Q. Mr. Saxe, when the helmsman got the order to port the helm, you thought the *Empress* was on your port bow? You thought so?—A. Yes, I knew she was there.

4951. Q. You have been for many years at sea as a sailor and for some time as an officer?—A. Yes.

4952. Q. If you hear a whistle in a fog, isn't it difficult to be certain whether it is heard on the port bow or on the starboard bow?—A. It may be.

4953. Q. But isn't it much more than may be, isn't that your experience that in a fog you can never be certain where the ship is?—A. But we had seen this ship only a few minutes before.

By Lord Mersey:

4954. Q. Will you answer the question please—is it not a fact that when there is a fog and you hear a whistle, you can never be sure from what point the sound is coming?—A. You cannot always be sure.

4955. Q. You cannot always be sure?—A. No, sir.

MR. ASPINALL.—That is all I want—you can't always be sure.

4956. Q. Now, the helm having been put a-port was very shortly afterwards put nearly hard-a-port?—A. Yes, sir.

4957. Q. Did that surprise you?—A. No, I did it myself.

4958. Q. You did it yourself?—A. Yes, sir.

4959. Q. Without orders?—A. Yes, sir.

By Lord Mersey:

4960. Q. Why did you do such a thing without orders?—A. I saw on the compass that the ship was going to go over to port side.

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LORD MERSEY.—Have you been told before that the putting the wheel hard-a-port was done by this witness, Mr. Aspinall?

MR. ASPINALL.—It has certainly come with a great deal of surprise to me, and I certainly do not think we have heard it before. If I am wrong, Mr. Haight will correct me.

MR. HAIGHT.—I think this witness said yesterday that he had done it.

MR. ASPINALL.—Did he say that he had done it without orders?

MR. HAIGHT.—I am quite sure that either this witness or the first mate said that this was the man that did it.

By Lord Mersey:

4961. Q. Did you put the helm hard-a-port?—A. Yes.

4962. Q. Without any orders from the mate?—A. Yes, I did.

LORD MERSEY.—That to me is new, but it may have escaped my notice.

By Mr. Aspinall:

4963. Q. Do you think that was the cause of this collision, that you put this helm hard-a-port without orders from the navigating officers?—A. No, sir.

By Lord Mersey:

4964. Q. You put the helm hard-a-port?—A. Yes, sir.

4965. Q. And you did it without any orders from anybody?—A. Yes.

4966. Q. Because you thought, I suppose, that it was right?—A. Yes.

4967. Q. Now, looking back, considering what you did, and that immediately afterwards, or very shortly afterwards, you came into collision with the *Empress*, do you think that the reason why you came into collision with the *Empress* was that you had put that helm hard-a-port?—A. No.

By Mr. Aspinall:

4968. Q. Only one other question. Did you write up the log of the *Storstad*? Did you write the entries in your log?—A. No.

By Mr. Haight:

4969. Q. You have stated, Mr. Saxe, that it is not always wrong, in your judgment, to port your wheel in a fog?

LORD MERSEY.—To alter the course, I understood him to say.

MR. HAIGHT.—No, to port the wheel.

LORD MERSEY.—Well, surely it doesn't make any difference whether he ports or starboards his wheel?

MR. HAIGHT.—No, my Lord, it would be just the same. I think what the witness said was that he did not think it was always wrong to alter the helm.

LORD MERSEY.—Well, proceed Mr. Haight.

By Mr. Haight:

4970. Q. Well, Mr. Saxe, you have stated that in your judgment it is not always wrong to change your wheel in a fog?—A. Yes.

4971. Q. Will you please say why in your opinion it was not wrong for the mate to give the order to port in this case?—A. There was a strong current there.

4972. Q. Well, what did the current have to do with it? Why did that make a difference?—A. The current can take the ship's bow over on the other side.

4973. Q. And porting the wheel would have what effect if the vessel had headway enough to change her course? That is, if the current bothered you at all, it would swing you to starboard and not to port?—A. Well—

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LORD MERSEY.—(Interrupting) Wait a moment—did you understand what that gentleman has just said this very moment?—A. Yes.

4974. Q. Well what did he say?—A. He asked me—

4975. Q. No, he didn't ask you anything; he said something. Now tell me what he said?—A. Well, I think he asked me—

4976. Q. No, he didn't ask you anything—he said something. I am afraid you don't understand me exactly, so I will put a few questions to you in German.

LORD MERSEY.—The witness informs me in German that he believes he misunderstood you, Mr. Haight, and I must say that I do not think he understood you at all.

Mr. HAIGHT.—Perhaps it is better my Lord that he did not understand me, for it was not wise that I should have made the statement as I did. It is for the witness to give the evidence. Would your Lordship prefer to have that struck from the evidence or to be allowed to stand.

LORD MERSEY.—I think it had better stand.

By Mr. Haight:

4977. Q. Well, Mr. Saxe, you were asked by Mr. Aspinall and by his Lordship if your putting the wheel hard over did not cause this collision. You said it did not. How do you know it did not cause the collision?—A. Well, we all the time were heading the same. It didn't change the course.

4978. Q. Why did you put the wheel hard over when the mate had simply said: port a little?—A. She wouldn't come, and a little after that it seemed to me as if she would go over to the port side, and I took the wheel and put it hard-a-port.

4979. Q. You say she wouldn't come, and after that it seemed to you what?—A. It seemed to me as if the bow would go over the other way, over to the port side.

4980. Q. As if the bow would go the other way?—A. Yes, to the side where the other ship was, and at that time I didn't ask the mate, but I only took the wheel myself and turned it over hard-a-port.

4981. Q. After you had put your wheel to port a little, you thought the compass indicated—A. I didn't put it to port a little. It was the quartermaster that put it to port a little.

4982. Q. Yes, after the quartermaster had put the wheel to port a little, you thought from the compass that you saw she was beginning to swing?—A. Yes, the other way.

By Lord Mersey:

4983. Q. I thought the indication of the compass was that she was always keeping her course?—A. Yes.

4984. Q. And therefore you know there was nothing in the compass to lead you to suppose, as far as I know, that she was altering her course?—A. Oh yes, just before the ship was coming I could see she started to move.

4985. Q. Did the course change?—A. No, it did not.

4986. Q. That is it, you know, the course did not change and I don't see what you could observe in the compass if the course didn't change?—A. It seemed to me as if she would go over to the other side.

4987. Q. But why did it seem to you as if she would go over to the other side if the compass didn't change—A. Just before the ship is coming I could see as if she started to move.

Mr. HAIGHT.—That is all, my Lord.

By Mr. Newcombe:

4988. Q. Do you remember meeting the *Hanover*—or do you remember meeting another ship coming up the river?—A. At what time?

4989. Q. On your watch—you came on at twelve o'clock, I understand?—A. Yes.

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4990. Q. Before you saw the lights of the *Empress* did you see the lights of another ship going down?—A. No.

4991. Q. That was the only steamer you met that night?—A. Yes, that I saw. I have not seen any other ships.

4992. Q. Now then, will you tell me how long it was, according to your estimate, between the time when you last saw the lights of the *Empress* before the fog came on and the time of the collision?—A. I can't tell you exactly.

4993. Q. I know you can't tell me exactly. Can you give me any idea? Was it an hour or half an hour?—A. It may have been about ten minutes, I suppose.

4994. Q. You think the ships were out of sight of each other for only about ten minutes?—A. About that.

4995. Q. You think that is a fair estimate of the time?—A. Oh, I think so, I think it is about that.

4996. Q. You may be perfectly right. Now then, when the ships were obscured from each other, what lights did you say the *Empress* was showing?—A. A red light.

4997. Q. And for how long before that time have you seen a red light?—A. That I can't tell you, but I think it should be about a few minutes.

4998. Q. Five minutes?—A. No, not so much.

4999. Q. Two minutes?—A. It may be about that.

4500. Q. Before this two minutes, during which she was showing you her red light, you had seen both the green light, and the red, and the green and the red both together?—A. We saw first the green.

4501. Q. Yes?—A. And then the two masthead lights and the two side-lights, and then only the red light.

4502. Q. And then only the red light?—A. Yes, sir.

4503. Q. So that I suppose you wouldn't be very sure as to what course she had steadied on when the fog shut her out?—A. Oh, yes.

4504. Q. You were sure?—A. Yes.

4505. Q. She had been showing you her red light long enough to lead you to suppose she had a fixed determination to pass you on the port side?—A. Yes, sir.

4506. Q. Now then, you heard the whistles, you say, on the port side?—A. Yes, sir.

4507. Q. Who made up this log book of the *Storstad*?—A. The chief officer.

4508. Q. That is Toftenes?—A. Yes.

4509. Q. This is written up in his hand?—A. I think so. I haven't had anything to do with the log book.

4510. Q. You had nothing to do with it?—A. No.

4511. Q. You have never seen it?—A. Oh, I have seen it.

4512. Q. Well didn't you have some conversation with him as to how the log was to be written up?—A. That time?

4513. Q. After the accident —A. No, sir, I had nothing to do with the log book at all.

4514. Q. You had nothing to do with it?—A. No.

4515. Q. Do you remember the occasion of the writing up of the log? Do you know when it was written up?—A. No, sir, I do not.

4516. Q. Did the captain or the chief officer speak to you about what was to be put in the log?—A. No, I haven't anything to do with that.

4517. Q. You have nothing to do with it, and had no conversation about it?—A. No, sir.

4518. Q. Did you have any conversation with them about the facts of the accident? About how the accident happened?—A. Oh, yes, we spoke about that.

4519. Q. You talked that over?—A. Oh, yes.

4520. Q. As to what lights were showing and what whistles were blown?—A. Oh yes, the captain asked me what lights we had seen. He was not on deck at first.

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4521. Q. Did you talk to the chief mate about it?—A. Oh, we were talking about her that time we saw her first—we saw her together.

4522. Q. I mean after the accident did you talk to the chief mate about it?—A. Oh, yes, we talked about the collision.

4523. Q. Who was your quarter-master at the wheel?—A. His name you mean?

4524. Q. Yes?—A. It was Johannsen.

4525. Q. And what was the name of the lookout?—A. Fremmerlid.

4526. Q. There was another man standing up in the watch, what was his name?—A. I only know his name is Knüt.

By Lord Mersey:

4527. Q. Can you tell me how that name is spelled?—A. I can't spell it in English.

4528. Q. Can you spell it in any language?—A. K-N-U-T.

4529. Q. With an umlaut?—A. Yes.

LUDWIG FREMMERLID, seaman, *Storstad*, sworn.

Mr. HAIGHT.—This witness speaks some English, my Lord, and I think we can manage to examine him in English with the occasional help of the interpreter.

LORD MERSEY.—Try and manage it. I have much more faith in your English than in my German.

Mr. HAIGHT.—If you don't understand the questions, ask Mr. Jensen and he will tell you what I say. However, I will use short words, and see if you can understand me without bothering the interpreter, and answer me in English as far as you can?—A. Yes.

4530. Q. How long have you been on the *Storstad*?—A. Eleven months.

4531. Q. You were a member of the crew at the time of the collision with the *Empress*?—A. Yes.

4532. Q. How long have you been going to sea?—A. Four years.

4533. Q. What was your watch at the wheel on the night of the collision?—A. From twelve o'clock to twenty minutes past one.

4534. Q. You were in the watch from twelve to four, the middle watch?—A. Yes.

4535. Q. Were there two other sailors with you in that watch?—A. Yes.

4536. Q. And part of the time you were on lookout and part of the time at the wheel.

4537. Q. And part of the time off duty?—A. Yes.

4538. Q. When you first came on deck at twelve o'clock, what did you do?—A. I went to the wheel.

4539. Q. And you were at the wheel how long?—A. One hour and twenty minutes.

4540. Q. That is you held the wheel from twelve o'clock until twenty minutes past one?—A. Yes, sir.

LORD MERSEY.—That is Sydney time he is talking about, I suppose.

Mr. HAIGHT.—Yes, my Lord, the ship's time was Sydney time.

4541. Q. And what did you do after you left the wheel?—A. I went on deck.

4542. Q. You were off duty?—A. Yes.

4543. Q. And you remained on deck how long?—A. One hour and twenty minutes.

4544. Q. That is from one twenty until when?—A. From twenty minutes past one to twenty minutes to three.

4545. Q. That is 2.40?—A. Yes.

4546. Q. And at twenty minutes before three where did you go?—A. On the lookout.

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4547. Q. Where did you stand on the lookout?—A. On the forecastle head.

4548. Q. Now, after you got on the lookout could you see any lights on the shore?—A. Yes.

4549. Q. White lights?—A. Yes.

4550. Q. Do you know on what point or points the white lights were?—A. I think one and a half points on the port side.

4551. Q. But do you know the name of any of the lights you saw? Was it a light house or a gas buoy or something like that?—A. I saw Father Point light, and I saw the light buoy, and the light from the *Empress*.

4552. Q. Did you know Father Point light?—A. Yes.

4553. Q. Have you made several voyages up the St. Lawrence?—A. One trip.

4554. Q. This was your second trip?—A. Yes, the second trip.

4555. Q. Now, after you went on the lookout, did you see the lights of the *Empress*?—A. Yes.

4556. Q. What lights did you first see?—A. White lights.

4557. Q. Do you know what the white light was?—A. A masthead light.

4558. Q. What was the first coloured light that you saw on the *Empress*?—A. The port lantern.

4559. Q. What colour was it?—A. Red.

4560. Q. When you first saw the masthead light, which bow was it on?—A. The port side.

4561. Q. And when you first saw the red light—A. The port side.

Mr. HAIGHT.—Let me finish the question, please?

LORD MERSEY.—We have the answer before the question.

By Mr. Haight:

4562. Q. When you saw the red light, on which bow was that?—A. The port bow.

4563. Q. How long did the red light show on your port bow?—(No answer.)

By Lord Mersey:

4564. Q. For how long did you see the red light on your port bow?—A. I don't know, but I think five or six minutes.

By Mr. Haight:

4565. Q. And why didn't you see the port light longer?—A. Because the fog came.

4566. Q. When the fog shut out the *Empress*, was the port light showing?—A. Yes.

4567. Q. And on which bow?—A. Port bow.

4568. Q. What was the next light you saw from the *Empress*?—A. Starboard light.

4569. Q. How close was the *Empress* to you then?—A. Two ship's lengths.

4570. Q. On which bow did the *Empress*' starboard light show?—A. *Storstad's* port bow.

4571. Q. Did you report the *Empress* when you saw her lights through the fog?—A. Yes.

4572. Q. How did you report it?—A. Two bells.

4573. Q. That meant what?—A. Ship on port side.

4574. Q. Could you see any cabin lights or other lights on the *Empress*?—A. Through the port holes.

4575. Q. Through the port holes of which boat?—A. *Empress*.

LORD MERSEY.—Does that mean that he saw light coming through the port holes?

Mr. HAIGHT.—Coming out of the ship's port holes. (To witness:) When you first saw the cabin lights and the starboard lights of the *Empress*, and as you after

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watched them, could you tell in which direction the *Empress* was moving?—A. Across our bow.

4576. Q. And as near as you can tell, how fast was the *Empress* going?—A. I don't know.

4577. Q. Was it——

LORD MERSEY.—You must take his answer; you are going to suggest it now.

Mr. HAIGHT.—It seems to me there is a difference between fast, middle speed, slow and almost dead in the water; perhaps he can characterize it in that way.

LORD MERSEY.—So there is, but you know perfectly well that it is a difference that exists in each man's mind and may be quite different from what is entertained by another man. One man thinks it is going fast; another man thinks it is going slow.

Mr. HAIGHT.—I think, my Lord, it would throw some light on the matter, but if it will not help the court it surely will not help me.

LORD MERSEY.—I will put it to him myself. (To witness:) The *Empress*, when you saw her, when you came out of the fog, was moving?—A. Yes, *Empress* moving.

4578. Q. She was moving, as I understand, forward?—A. Yes.

4579. Q. She was not reversing; she was not going back?—A. No.

4580. Q. Now, you do not know how fast she was moving?—A. I do not know.

4581. Q. Was she moving quickly or was she moving slowly?—A. Nearer quick.

LORD MERSEY.—Now you have it that in his opinion it was quick.

Mr. HAIGHT.—Nearer quick; I think that means something, my Lord. (To witness.) Where were you standing when the collision came?—A. On the after deck; I was at the fore hatch.

LORD MERSEY.—Where does he say he was?

Mr. HAIGHT.—At the fore hatch, my Lord; he stepped back about 10 feet.

LORD MERSEY.—On the deck?

Mr. HAIGHT.—On the deck. (To witness). How long did you remain on the fore-castle head after you saw the *Empress* coming out of the fog?—A. The *Empress* was three meters from the *Storstad* when I left the fore-castle head.

LORD MERSEY.—What does he say?

Mr. HAIGHT.—Three meters; he figures about 10 feet away. (To witness): After the collision, what did you do?—A. Went forward again.

4582. Q. Did you subsequently man one of the boats?—A. First mate called me to the boat.

4583. Q. Was that right after the collision?—A. Yes.

4584. Q. Whose boat did you go in; who was in command?—A. Third mate.

Mr. HAIGHT.—You talk to me in English, Mr. Feremmerlid.

LORD MERSEY.—You understand it very well and you speak English very well.

The WITNESS.—I speak English no good.

By Mr. Haight:

4585. Q. How many trips did you make back and forwards from the *Storstad* to pick up the people from the *Empress*?—A. Two trips.

4586. Q. You went in the third mate's boat first?—A. Yes.

4587. Q. What boat did you go in on the second trip?—A. The English lifeboat from the *Empress*.

4588. Q. Who ordered you into the *Empress* boat?—A. Captain.

4589. Q. Did you after the collision find the number of a stateroom on your deck?—A. Yes.

4590. Q. Whereabouts did you find that number?—A. Near the bow.

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4591. Q. On the starboard side or on the port side?—A. Right forward.

4592. Q. Let us have it starboard or port?—A. Right in the middle.

4593. Q. Right amidships?—A. Yes.

4594. Q. Is that the number, which I show you? (Number shown to witness).
—A. 328, yes.

Mr. HAIGHT.—We got that, my Lord, this morning.

LORD MERSEY.—Do you want us to assume that this number dropped from the *Empress* and fell immediately upon the deck of the *Storstad*?

Mr. HAIGHT.—328 is an inside room on the upper deck, starboard. We have not that many passenger staterooms on our ship, my Lord. It certainly came from the *Empress*.

LORD MERSEY.—I have no doubt that it came from the *Empress*. I should think the Canadian Pacific Railway Company ought to know.

Mr. HAIGHT.—Any of these gentlemen should recognize it if it is their number.

LORD MERSEY.—The point is, where did he pick it up? He picked it up amidships on the *Storstad*?

Mr. HAIGHT.—No, my Lord, on the bow, neither the starboard bow nor the port bow; right over the keel.

LORD MERSEY.—That means amidships, on the stem, midway between port and starboard.

Mr. HAIGHT.—Precisely.

By Mr. Haight:

4595. Q. How soon was it after the collision that you found this on your deck?—
A. Two hours.

4596. Q. Was it daylight then?—A. Yes.

4597. Q. It was after you had picked up all the people from the water—A. Yes.
(Cabin number filed as *Storstad's* exhibit No. 12.)

By Mr. Aspinall:

4598. Q. How far abaft the stem did you find this cabin number? Don't you understand me?—A. No.

4599. Q. Why do you suddenly get frightened of me? How far abaft the stem; do you understand that?—A. No.

4600. Q. Oh, come. At the back of the stem?—A. Four feet.

LORD MERSEY.—What does he say?

Mr. ASPINALL.—Four feet abaft of the stem of the *Storstad* he found the cabin number.

By Mr. Aspinall:

4601. Q. You remember reporting the masthead light of the *Empress*?—A. Yes.

4602. Q. You understand me, do you not?—A. No.

4603. Q. Now, now, sir.

LORD MERSEY.—He understands you when you ask him if he understands. (To witness): How old are you?—A. Twenty.

4604. Q. When did you leave school?—A. Four years.

4605. Q. Four years ago?—A. Yes.

4606. Q. Then did you go to sea?—A. Yes.

4607. Q. Where did you go to sea?—A. Bergen, Norway.

4608. Q. Did you learn English at school?—A. A little bit.

4609. Q. And then a little bit more on board ship?—A. Yes.

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By Mr. Aspinall:

4610. Q. You said you remember seeing the masthead lights of the *Empress*?—
A. Yes.
4611. Q. And you reported them?—A. Yes.
4612. Q. And having reported them, did you trouble much more about them?—
A. Yes.
4613. Q. Weren't you looking out for other lights? You had done with these lights?—A. Yes.
4614. Q. You had finished with them; you told the bridge, didn't you?—A. Yes.
4615. Q. Now, are you sure you saw the red light of the *Empress* on your port bow, as you tell us?—A. Yes.
4616. Q. Did you hear the vessels whistling to one another?—A. Yes.
4617. Q. Did you know what whistles they were blowing?—A. First time, one long; next time I am not sure whether it was two or three, short; third time, three long blasts; no more.
4618. Q. That is what you remember?—A. Yes.
4619. Q. You were probably not paying attention to the whistles, were you?—A. Yes.
4620. Q. What did your ship blow?—A. I was so occupied by the *Empress*' whistle that I didn't notice.
4621. Q. You were noticing the *Empress*' whistles, were you?—A. Yes.
4622. Q. Did you hear the *Empress* at any time blow two blasts?—A. I am not sure.
4623. Q. In a fog, if you hear your whistle blow two long blasts, do you know what that means?—A. Lay still.
4624. Q. Did the *Empress* blow two long blasts to tell you that she was lying still?—A. I don't know.
4625. Q. But you were paying attention to her, you know.—A. I am not sure whether there was two or three.
4626. Q. You are not sure whether it was two or three long blasts?—A. They were not long, they were short.
4627. Q. Now, you told us that when you saw the *Empress* she was moving?—A. Yes.
4628. Q. Isn't this right; that as soon as you saw the *Empress* you ran away? Didn't you run away the moment you saw this great vessel?—A. No.
4629. Q. You have told us that the *Empress* was moving at the time you saw her. What was your ship doing at the time of the collision; was she going fast or slow, or was she stopped?—A. The *Storstad* made a very little headway first, and then the engine was reversed and it was stopped.

LORD MERSEY.—I shall have to get some one to interpret the interpreter.

MR. ASPINALL.—He says that the *Storstad* was going slow speed at first; then the engines were reversed and then the engines were stopped. Perhaps the shorthand writer will read it for us.

(The reporter hereupon read the answer to Question No. 4629).

By Mr. Aspinall:

4630. Q. Now, did you, the lookout man, know what was being done with the engines?—A. I could feel it very shaky.

By Chief Justice McLeod:

4631. Q. State that again.—A. I could notice that by the vibration.

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By Lord Mersey:

4632. Q. Is it by your recollection of vibrations of your ship that you are able to tell us what the engines were doing?—A. It is by the vibrations.

4633. Q. It is by your recollection of the vibrations that you are now able to say what the ship was doing?—A. Yes.

By Mr. Haight:

4634. Q. As you heard the whistles blown by the *Empress* while she was in the fog, from which side did the sound appear to come; which side of your boat?—A. Port side.

By Lord Mersey:

4635. Q. Can you tell me, Fremmerlid, whether you looked at the side of the *Empress* to see what damage the *Storstad's* bow had done? Did you look at the star-board side of the *Empress*?—A. Yes.

4636. Q. Can you tell us what damage your stem had done to her side?—A. No, sir.

By Mr. Newcombe:

4637. Q. Before the fog shut down, you saw the coloured light of the *Empress*?—A. Yes.

4638. Q. You say you saw the red light of the *Empress*?—A. Yes.

4639. Q. Now tell me, according to the best of your knowledge, how long it was between that time and the time of the collision?—A. I don't know, I think 15 minutes.

4640. Q. About 15 minutes, you think?—A. I think so.

4641. Q. What bearing on your port bow had the red light of the *Empress* when the fog shut it out?—A. One and a half points, I think.

4642. Q. You talked over with the officers of your ship the testimony you were going to give here?—A. No.

4643. Q. Never spoke to them about it?—A. No.

4644. Q. Did you make this statement to any person? Did you give a statement of your testimony to any person before you came here?—A. No.

4645. Q. Do you mean to tell me you have not talked over the circumstances of the collision from that day to this, with any person?—A. Yes.

4646. Q. You have?—A. Yes.

4647. Q. With Captain Andersen?—A. No.

4648. Q. With Chief Officer Toftenes?—A. No.

4649. Q. With the third mate?—A. No.

4650. Q. With nobody on the ship?—A. Yes, with the other sailors.

4651. Q. Any one else?—A. No.

4652. Q. Then you have given no statement of your testimony except as you have talked it over with your fellow sailors.

LORD MERSEY.—Mr. Newcombe, please make it clear. You know, at present it seems as if he had never given his statement to anybody, and that I can scarcely credit.

By Mr. Newcombe:

4653. Q. Now, witness, did any one of these gentlemen send for you? Did you go to anybody's office or room and answer questions as to what your recollection was of the facts of the case?—A. No.

4654. Q. I want you to have an opportunity to state everything that you wish to state about it; I want you to put yourself right upon this. You have said you talked about it with your fellow sailors and with nobody else; do you seriously mean that you never did give any statement to anybody except to your fellow sailors?—A. Not but the few Norwegians I met on shore.

4655. Q. Sailors?—A. Mates.

4656. Q. On the street or in the boarding house?—A. On the street.

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By Lord Mersey:

4657. Q. Have you talked it over with any of the sailors from the *Alden*?—A. No.
 4658. Q. Now, listen to me. Have you told the story which you told to-day; have you told it here for the first time in your life?—A. No.
 4659. Q. When did you tell it to any one before?—A. To my friends on board.
 4660. Q. Can you give us all their names?—A. To all of them.
 4661. Q. Well, give us all their names.—A. That is too many; I don't remember.
 4662. Q. Does he remember any one of their names?—A. Postmon Hanser Hansen.
 4663. Q. Is he here to-day?—A. No.
 4664. Q. Was he on the *Storstad*?—A. Yes.
 4665. Q. Now, any other man?—A. Ludwig Larsen.
 4666. Q. Is he here to-day?—A. Yes.
 4667. Q. Now, any other man?—A. Can't remember all names.
 4668. Q. Has he told us all the names that he can remember?—A. I don't remember the last name.

4669. Q. Now, I want to ask him this: Has he never spoken to his own captain about the circumstances of the collision?—A. All I have said I only told the captain the way it happened, all that I saw.

4670. Q. I want to know what he told the captain; all that he told the captain?—A. Told him all that I said here to-day.

4671. Q. Did you tell any one else besides the captain? Did you tell the first mate?—A. The mate was listening.

4672. Q. Did you tell anybody else?—A. Nobody but my friends on board.

4673. Q. But you told the captain and you told the first mate; is that right?—A. Yes.

4674. Q. When did you tell them?—A. I don't know what time.

4675. Q. Was it the day of the collision or was it many days afterwards?—A. The other day.

4676. Q. The other day?—A. The second day after the collision.

4677. Q. Where were you when you told him?—A. On deck.

4678. Q. You were on the deck of your ship, the *Storstad*?—A. Yes.

4679. Q. In Montreal?—A. No.

4680. Q. Where?—A. Going up.

4681. Q. Steering up to Montreal?—A. Yes.

4682. Q. Did the Captain write down what you said?—A. No.

4683. Q. Have you told this story to any one who wrote it down while you were telling it?—A. No.

4684. Mr. HAIGHT.—Then your Lordship might ask the direct question as to whether he has discussed it with Counsel. He has and his answers and statements were taken.

LORD MERSEY.—I would take your statement of it. Probably your practice here would not be the same as that to which I am accustomed?

Mr. HAIGHT.—Our practice is quite different from yours.

LORD MERSEY.—I dare say it is. According to our practice a man would make his statement to a solicitor, or some person of that kind, who would take down what he had said.

Mr. HAIGHT.—According to the New York practice among the Admiralty Bar, and according to the invariable practice in my office, we get on board a steamer after a serious collision with the least possible elapse of time. We see the physical damage and we take notes from every man on the ship before he has a chance to leave the ship. In this instance, when we got word in New York that the *Storstad* had had this fearful collision, in the course of a few hours, Mr. Griffin started for Montreal. There were a good many things to be done; among them, the captain of the *Storstad*, for a

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day or two, almost needed physical protection. But at the earliest possible moment my partner had called before him in the cabin of the boat every member of the crew, heard their statements, made rough notes which he still has and subsequently dictated statements as to what these notes contained. This man at that time gave his statement and was ordered to Quebec the night before last. He arrived yesterday morning and he told his story to me last night after dinner.

LORD MERSEY.—I should think that would be the course to take.

Mr. HAIGHT.—It has been my experience that when you ask a man whether he has made a statement he almost invariably associates that question with talking to some outsider and I have invariably been classed as one of the outsiders.

By Lord Mersey:

4685. Q. Do you see that gentleman? (pointing to Mr. Griffin).—A. Yes, sir.

4686. Q. Did you make a statement to him?—A. Yes.

4687. Q. I quite misunderstood you. I thought you said you had made no statement to anybody first of all except to your comrades on the ship and then to the captain and mate and now it seems you made a statement to that gentleman as well?—A. I believed you knew I had made a statement to that gentleman.

Mr. HAIGHT.—The captain tells me that this man was particularly warned not to talk to reporters. The ship was swarming with them.

LORD MERSEY.—It is very necessary.

Mr. HAIGHT.—I think it is a very good rule to withhold your remarks until the proper time.

Witness retired.

PETER JOHANNSEN, quartermaster, *Storstad*, sworn.

(*Evidence given through interpreter, Mr. Jensen.*)

By Mr. Haight:

4688. Q. How long have you been going to sea?—A. Four years.

4689. Q. How long have you been on the *Storstad*?—A. Thirteen months.

4690. Q. Where did you join it?—A. Shields.

4691. Q. Have you been acting as quartermaster all that time?—A. No.

4692. Q. How long have you been taking your trick at the wheel?—A. We have three men on the watch and we are one hour and twenty minutes at the wheel.

4693. Q. You have been thirteen months on the *Storstad*; have you been taking your turn at the wheel part or all of that time?—A. Yes.

4694. Q. Yes, what?—A. I took my turn all the time since I came on board.

4695. Q. Were you at the wheel at the time of the collision with the *Empress*?—A. Yes.

4696. Q. When did you take the wheel?—A. Twenty minutes to three.

4697. Q. Did you receive your course from the man whom you relieved?—A. Yes.

4698. Q. What is the course which he gave you?—A. West by south half south.

4699. Q. When you looked into the compass was the steamer holding on that course?—A. Yes.

4700. Q. Did you, before the collision, receive an order to change your wheel?—A. Yes, sir.

4701. Q. What order was that?—A. Port.

4702. Q. Who gave you the order?—A. The chief officer.

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4703. Q. When you received the order to port how was the *Storstad* then holding by your compass?—A. West by south half south.

4704. Q. Did you put your wheel over to port?—A. Yes.

4705. Q. How much?—A. Half over.

4706. Q. Did you put it over more later?—A. Hard over later.

4707. Q. Why did you put it hard over?—A. The third mate came and put the wheel hard over.

4708. Q. Before the third mate took the wheel had your heading changed any by compass?—A. No.

4709. Q. When the third mate put the wheel hard over had your ship changed?—A. No.

4710. Did you see the *Empress* before the collision?—A. A little before the collision.

4711. Q. On which bow was she?—A. The port bow

4712. Q. Could you tell whether or not the *Empress* was moving?—A. No.

4713. Q. After the collision what became of the *Empress*?—A. I do not know, I ran aft and called the men.

4714. Q. What was the last you saw of the *Empress* before you left the bridge?—A. Right ahead.

4715. Q. The boats were then in contact?—A. Yes.

Cross-examined by Mr. Aspinall:

4716. Q. Mr. Johannsen, at the time of the collision was the *Storstad* travelling fast or slow?—A. I do not know.

4717. Q. A man at the wheel ought to know, if he is using his wheel, whether the ship is travelling fast or slow, ought he not?—A. I do not know.

4718. Q. He would know whether the ship had steerage way or not?—A. She had steering.

By Lord Mersey:

4719. Q. Be quite clear about it. Had the *Storstad* steering way at the time he was at the wheel?—A. Yes.

By Mr. Aspinall:

4720. Q. Is the *Storstad* a good steering vessel?—A. Yes.

4721. Q. Is the wheel easily put to port or starboard?—A. Yes.

4722. Q. You put it to port?—A. Yes.

4723. Q. The mate, Saxe, put it to hard-a-port?—A. Yes.

4724. Q. I suppose you could easily have put it to hard-a-port, could you?—A. Yes, sir.

4725. Q. When the mate took the wheel and put it hard-a-port, did he seem to be excited?—A. No.

4726. Q. Could you tell me why he did that which you could so easily do?—A. I do not know.

4727. Q. The moment the collision happened—I understand——

LORD MERSEY.—I want you to put a question. You may not want to put it but I want you to put it.

MR. ASPINALL.—I can understand that we may be looking at it sometimes from different points of view.

By Lord Mersey:

4728. Q. Is the wheel easily moved?—A. Yes.

4729. Q. And the *Storstad* answered quickly to her wheel—A. Yes, sir.

4730. Q. He put the wheel to port?—A. Yes.

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4731. Q. Did she answer?—A. No.

4732. Q. The mate hurried up and put the wheel hard-a-port?—A. Yes.

4733. Q. Did she answer?—A. No.

4734. Q. Why?—A. Too little headway.

4735. Q. I thought he told us just now that she had steerage headway.—A. When the ship has speed ahead she has steering.

4736. Q. I understood him to say just now that his ship had steerage way on at this time?—A. She had steering way but did not answer right away.

4737. Q. If she had steerage way, and she answered quickly to her helm, why did she not answer on this occasion?—A. There was one minute after putting the helm hard-a-port that the collision happened.

4738. Did you ever hear anything about the current?—A. No.

LORD MERSEY.—I did not want to let that pass.

Mr. ASPINALL.—I quite understand the difference in our positions.

LORD MERSEY.—I want to know as accurately as I can what it is that they intend me to believe.

By Mr. Aspinall:

4739. Q. As soon as the collision happened is it right that you ran away and called the crew?—A. Yes, sir.

By Mr. Haight:

4740. Q. Quartermaster, when you last saw the compass before you left the bridge, how was the *Storstad* then heading?—A. Course.

4741. Q. What course?—A. West by south, half south.

4742. Q. Was that before the vessels came together or after they came together?—A. Just as they collided she was heading west by south half south.

By Mr. Newcombe:

4743. Q. How long before the collision was it that your wheel was first ported?—A. A minute and a half.

4744. Q. And one minute to hard-a-port?—A. Yes.

Witness retired.

JACOB SINGDAHLSEN, third engineer, *Storstad*, sworn.

(Through interpreter.)

By Mr. Haight:

4745. Q. How long have you been on the *Storstad*?—A. Twelve and a half months.

4746. Q. You are the third engineer?—A. Yes, sir.

4747. Q. Were you on watch at the time of the collision?—A. Yes, sir.

4748. Q. What was your regular watch?—A. Twelve to four.

4749. Q. At twelve o'clock you went on watch; how were your engines running?—A. Running all right.

4750. Q. Were they running ahead?—A. Yes.

4751. Q. What speed?—A. Full speed.

4752. Q. About how many revolutions were you making?—A. About 64.

4753. Q. Were they counted or are you just estimating? Do you count the revolutions while on watch?—A. Yes.

4754. Q. What revolutions do you make when you are making your best speed?—A. About 67, with a loaded ship.

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4755. Q. After you went on watch your engines were at speed for some time—several hours—were they not?—A. Till three o'clock.

4756. Q. When was it, after you went on watch at 12 that you received the first order on the telegraph?—A. Three o'clock.

4757. Q. What was the order?—A. Slow.

4758. Q. Did you obey that order?—A. Yes, sir.

4759. Q. Who answered the order on the telegraph?—A. The greaser.

4760. Q. Did you log that bell?—A. Yes, I logged that bell.

4761. Q. Where is your slate or scrap log kept in the engine room—how far from the throttle?—A. Just on the other side.

4762. Q. How many feet away—would it take three or four steps to get there?—A. Six or seven.

4763. Q. After you had obeyed the slow order and logged it what was the next order you got?—A. Stop.

4764. Q. When did you get the stop order?—A. Two minutes after three.

4765. Q. That is at 3.02?—A. Yes.

4766. Q. Who answered that order on the telegraph?—A. I did.

4767. Q. The oiler was not there that moment?—A. No.

4768. Q. How near is your telegraph to your throttle?—A. I could just turn around.

4769. Q. Did you stop your engines?—A. Yes.

4770. Q. Did you log that bell?—A. Yes, I logged that bell.

4771. Q. About how long after you got the order to stop was it before you received your next order on the telegraph?—A. I think some minutes.

4772. Q. What was the next order that you received, do you remember?—A. I think it was slow.

4773. Q. Slow which way?—A. Slow ahead.

4774. Q. Did you answer the order on the telegraph or was the greaser there then?—A. No, the greaser was there then.

4775. Q. Did you execute the order, whatever it was?—A. Yes.

4776. Q. Did you log that order?—A. No.

4777. Q. You had logged the first two orders; how did it happen that you did not log that third order?—A. I got some more orders just after.

4778. Q. Did you at the time log any of the bells that you received, except slow at 3 and stop at 3.02?—A. No, I logged them after.

4779. Q. Now, did you after the collision write up your scrap log? When was it that you wrote it up; how long after the collision?—A. It was about after 4.

4780. Q. Had you gone off watch then?—A. No, I had it when the second engineer came down.

By Lord Mersey:

4781. Q. Did you write the log?—A. Yes.

4782. Q. What was the second engineer doing?—A. Taking over the watch.

4783. Q. And you then wrote up the log?—A. Yes.

LORD MERSEY (To Mr. Haight).—You are talking now about the engineer's log?

MR. HAIGHT.—The engineer's scrap log, my Lord.

LORD MERSEY.—I only want to prevent confusion; this is not the log we have been hitherto talking about; it is the engineer's scrap.

MR. HAIGHT.—Precisely. (To witness).—The log that you wrote us after the second engineer relieved you was the engine room scrap log?—A. Yes.

4784. Q. Please look at the paper which I show you. Is that the sheet on which you made your scrap entries? (Scrap log handed to witness).—A. Yes.

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4785. Q. Is the upper part or the lower part in your handwriting?—A. It is the upper part.

4786. Q. When you wrote down the bells after 3.02, how long was that after the collision?—A. It was when the second engineer came down.

4787. Q. But had the collision happened then; did you feel the jar of the collision?—A. Yes, sir.

4788. Q. Was that while you were still on duty?—A. Yes, sir.

4789. Q. How many bells do you think you received after the collision before the second engineer relieved you, roughly speaking? Of course, you cannot tell exactly, but were there many or few, two or three or what?—A. There were many.

4790. Q. When you wrote down the entries in this scrap after you were relieved, you did as well as you could to get the time and the bells?—A. Yes, sir.

MR. ASPINALL.—My Lord, I have here a translation of the log and I think it would be useful if your Lordships had it before you.

LORD MERSEY.—Does Mr. Haight agree with this translation?

MR. HAIGHT.—If it is like the other one, I would much rather submit both and let your Lordships compare them.

LORD MERSEY.—Why submit both? I cannot read the Norwegian log.

MR. ASPINALL.—We can compare them; their deck log was rather imperfectly translated.

LORD MERSEY.—Who is responsible for the translation?

MR. HAIGHT.—I do not think anybody is responsible for it, my Lord; Mr. Newcombe had it made.

LORD MERSEY.—Then, Mr. Newcombe, you are responsible.

MR. NEWCOMBE.—I do not want to take any more responsibility than I ought to shoulder. This log was turned over to the Department of the Interior, who make all out translations for us at Ottawa, and they produced a translation. I understand that my learned friend had it translated and that my learned friends for the Canadian Pacific Railway Company also had it translated, and no two of these translations agree. I believe, however, that a combined translation has been produced which may be accepted.

LORD MERSEY.—A kind of blend?

MR. NEWCOMBE.—Yes.

MR. ASPINALL.—My Lord, they do agree.

LORD MERSEY.—Very well, but if they do agree, I would rather have only one. Can you not agree upon the one?

MR. ASPINALL.—Up to 3.20, to which Mr. Haight or Mr. Newcombe, I do not know which, has taken the log, we are agreeing. Theirs stops at 3.20 and mine goes a little further.

LORD MERSEY.—It doesn't in the least matter what the entries were after 3.20.

MR. HAIGHT.—Not to me, my Lord.

MR. ASPINALL.—I am not sure that it may not.

LORD MERSEY.—The translation of the engineer's scrap log; whose is that?

MR. HAIGHT.—In blue?

LORD MERSEY.—In blue, yes.

MR. HAIGHT.—That is ours, my Lord. I should explain that we tried to make a copy of our engine log, but we turned it over to the government. As I did not compare them myself, I am not sure that it is accurate, but it is easy to compare them now.

LORD MERSEY.—This in black is the government's translation is it?

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Mr. HAIGHT.—Mr. Aspinall is responsible for that.

LORD MERSEY.—Whose translation is this?

Mr. ASPINALL.—This gentleman made that (pointing to Mr. Lincoln).

LORD MERSEY.—(To Mr. Lincoln): Is this your translation?

Mr. LINCOLN.—Yes, your Lordship.

LORD MERSEY.—What is it a translation of?

Mr. LINCOLN.—It is a translation of the official engine-room log book.

LORD MERSEY.—Then it is a translation of the same log?

Mr. HAIGHT.—No, my Lord, he has translated the official log and we have been talking about the scrap. We have translated both the official log and the scrap.

CHIEF JUSTICE McLEOD.—You had better keep the scrap logs for the time being. All you have examined the witness upon is the scrap log?

Mr. HAIGHT.—The scrap log; he made entries there but he did not make any others.

LORD MERSEY.—Who wrote the log itself?

Mr. HAIGHT.—The chief engineer, my Lord.

LORD MERSEY.—Not this man?

Mr. HAIGHT.—No, my Lord.

LORD MERSEY.—Then the chief engineer, who did not make the scrap log, subsequently wrote the engineer's log?

Mr. HAIGHT.—Yes, my Lord, the chief always makes the official log entries, using the scrap entries made by his assistant.

LORD MERSEY.—Before these scraps were put into this log, were they on slates?

Mr. HAIGHT.—No, my Lord; that which you have before you is the sheet of original entry.

LORD MERSEY.—That hangs up in the engine room?

Mr. HAIGHT.—It is a pad which lies on a desk in the engine-room.

LORD MERSEY.—Are they pasted together to make the scrap log?

Mr. HAIGHT.—No, my Lord, in this particular ship, instead of using a slate and rubbing out the entries after each watch and losing them entirely, they had a "Little Nell" writing tablet upon which they wrote, afterwards fastening the sheets together.

LORD MERSEY.—I only want to know how many logs there are. First of all, there are the scraps of paper upon which the man in the engine room records the movements.

Mr. HAIGHT.—Yes, my Lord.

LORD MERSEY.—Then is the scrap log made up only of these pieces of paper?

Mr. HAIGHT.—These are the scrap entries from which the official entries are made.

LORD MERSEY.—Then there are only two, the scrap log made up of those bits of paper, and the regular engineer's log?

Mr. HAIGHT.—The official log.

LORD MERSEY.—This document, which I have called the *Storstad's* translation of scrap engineer's log, purports to be a translation of the slips of paper?

Mr. HAIGHT.—Yes, My Lord.

By Mr. Aspinall:

4791. Q. You have told us that the vessel made 64 revolutions at full speed?—A. Yes, sir.

4792. Q. What does she make at half, what number of revolutions?—A. 45.

4793. Q. What at slow.—A. 34.

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4794. Q. And I suppose you can go dead slow, can you not—slower still?—A. Yes, we used to go between 35 or 40, and that is slow.

4795. Q. Did you feel the shock of the collision?—A. Yes, sir.

4796. Q. There are in your scrap log various times; what was the time of the collision?—A. It was about a minute after the going full speed aft.

4797. Q. I will read to you what is in the scrap log; "Slow speed at 3; stop at 3.02; full speed astern at 3.05." Do you hear me?—A. Yes, sir.

4798. Q. And the collision came immediately after the full speed astern. That is right, is it not?—A. Yes, I didn't look at my watch when he came.

4799. Q. You didn't look at your watch, but you know when your engines went full speed astern and the collision was immediately after. That is right, is it?—A. Yes.

4800. Q. That is what we were told by your officers, you know. Therefore, the collision was between 3.05 and 3.06?—A. I cannot say.

4801. Q. It was immediately after going full speed astern at 3.05. Did you go full speed astern for about five minutes?—A. I can't remember how long it was.

4802. Q. That same morning when the things were fresh in your mind, you wrote up your scrap log; that is right is it not?—A. Yes.

4803. Q. Now let me read to you what I find in the scrap log after 3.05. Full speed astern, 3.05; collision immediately after. After the 3.05 the next order is stop at 3.10, 5 minutes later. If this is right it means that you were reversing for five minutes.—A. I got some orders there; I didn't look at my watch.

LORD MERSEY.—Give him his scrap log and let him look at it.

(Scrap log handed to witness).

The WITNESS.—I wrote that down to the best of my memory.

By Lord Mersey:

4804. Q. Is that your writing?—A. Yes.

By Mr. Aspinall:

4805. Q. When you wrote up that scrap log, these things were fresh in your memory?—A. I wrote that down to the best of my knowledge, the best I could remember.

4806. Q. And do you think now that this is an accurate scrap log?—A. I don't think it is correct because I didn't look at the watch.

4807. Q. But why don't you think it is correct; what is the good of it?

By Lord Mersey:

4808. Q. Do you want us to believe your scrap log or do you want us not to believe your scrap log, which?—A. It was the best I could remember.

4809. Q. Do you think I shall be right if I believe it? I want to get at the truth of the thing. Do you think I shall be safe if I rely upon what you wrote down at 4 o'clock in the morning after the collision?—A. There was some orders that came in between that I didn't write down.

4810. Q. That is not what I am asking. I want to know whether you think I am safe in reading this scrap log and in assuming that it is right?—A. I got more orders and it is not sure.

4811. Q. Am I right in assuming that what you put down in your log is correct?—A. I wrote down to the best of my knowledge what I could remember.

4812. Q. That means that he thinks that what is here, as far as it goes, is right. A. (The interpreter). Yes, sir.

4813. Q. No; but ask him. You speak English very well, and I think that you can understand what I am saying to you. Now listen; brighten up. Do you understand what I am saying now?—A. Yes, my Lord.

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4814. Q. At 4 o'clock after this accident—listen; look at me—at 4 o'clock after this accident you sat down and wrote the movements of your engines to the best of your recollection, did you?—A. Yes.

4815. Q. That is the paper that you wrote (indicating scrap log)?—A. Yes.

4816. Q. May I take it that as far as you know that is a correct statement of what happened?—A. The best that I remembered then.

4817. Q. The best that you remembered then; is that what you said?—A. Yes.

4818. Q. Would you remember better later a long time than you would immediately afterwards?—A. —

LORD MERSEY.—What is this man's name?

Mr. ASPINALL.—His name is Singdahlsen.

By Lord Mersey:

4819. Q. Is that your name?—A. Yes, sir.

4820. Q. Is there anything in your scrap log that you are frightened of?—A. —

4821. Q. You are giving me an unfortunate impression at the present time. I am beginning to think that there is something you wrote down at that time that you do not like, but may be wrong. Do you understand what I mean?—A. I do not think I put them down.

4822. Q. Are you frightened of the fact that you did not put down what you wanted put down?—A. I do not think I put them down.

Mr. HAIGHT.—What he means is that as far as he did put them down they are accurate, but there are other facts which he did not put down and which ought to have been put down. That is what he wants to say—whether it is true is another matter.

By Mr. Aspinall:

4823. Q. Later on did you give these notes, this scrap log, to the chief engineer to write up his log?—A. Yes.

4824. Q. When did you give them to the chief engineer?—A. The chief engineer took the scrap log from the engine room.

4825. Q. Did you tell the chief engineer; I am not quite certain that I put everything into my scrap log?—A. I told the chief that.

4826. Are you sure?—A. The chief asked me if this was what happened.

4827. Q. What was your answer?—A. The best I could remember, I told him.

4828. Q. You told us to-day that before the collision you logged the three o'clock order and the 3.02 o'clock order; is that right?—A. Yes, sir.

4829. Q. But you said you remembered, although you have not logged it, that you had an order slow ahead before you went full speed astern. The orders: between 3.02 and 3.05 were all to go slow ahead; is that right?—A. Yes.

4830. Q. Can you tell me for how long you went slow ahead?—A. I cannot say for sure.

4831. Q. Can you tell me in this way; how many revolutions do you think your engines made at slow ahead? If you cannot, say no.—A. As usual.

4832. Q. I do not think you remember—about?—A. About 35 revolutions.

4833. Q. These are the revolutions per minute?—A. Yes, per minute.

4834. Q. I was trying to get at the time during which you were going slow ahead; I do not think you remember, do you?—A. No.

By Mr. Haight:

4835. Q. After you entered your second bell at 3.02 did you look at the clock when you received any of the other orders which you entered in the scrap log?—A. No.

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SESSIONAL PAPER No. 21b

By Mr. Newcombe:

4836. Q. Immediately the collision happened did your chief engineer come to the engine room?—A. A little while after.

4837. Q. A minute, or seconds?—A. I cannot say exact on a minute.

4838. Q. What was going on—what were they doing when the chief came in?—A. The engine was stopped.

4839. Q. Give the names of the greasers and firemen on watch there in the engine room?—A. Sverre Bredesen, Andreas Johannsen and Johann—I do not remember his other name.

4840. Q. Is that all?—A. Harry Olsen; there were three firemen and one oiler.

LORD MERSEY.—This, the original scrap book, must be marked.

(Scrap log put in and marked Exhibit No. 13).

LORD MERSEY.—I want to know where the original engineer's log is.

Mr. HAIGHT.—The government has it.

Mr. NEWCOMBE.—I put that in.

(Engineer's log put in and marked Exhibit No. 14).

LORD MERSEY directed the interpreter, Mr. Jensen, to read from the chief engineer's log book, Exhibit No. 14, and to translate.

Mr. HAIGHT.—There is a translation.

Mr. JENSEN.—Read from chief engineer's log in Norwegian and translated 'full speed till 3 o'clock'; 'slow speed at 3.'

LORD MERSEY.—(referring to translation before him). That is not in this. What is the meaning of that, Mr. Haight? The translation I have from the engineer's scrap log says 'slow speed at three' but when it is written up in the engineer's log, it is, according to this gentleman, 'full speed till 3 o'clock'.

Mr. HAIGHT.—These are identically the same only differently expressed.

LORD MERSEY.—Is a slow order the same as a full speed order?

Mr. HAIGHT.—Full speed till three is just the same as slow at three.

LORD MERSEY.—But in your translation the only words are 'slow speed at three'.

Mr. HAIGHT.—It is taken from the scrap log.

LORD MERSEY.—Let me see that scrap log. (To interpreter): Translate to me these words (indicating).

Mr. JENSEN.—'Full speed three o'clock'.

Mr. HAIGHT.—The scrap log is 'full speed till three o'clock'.

Mr. HAIGHT.—If you will ask the interpreter to interpret the top entry—the entry at the top—in the third engineer's handwriting, you will see that it is 'slow speed 3'.

Mr. JENSEN.—'Slow speed at 3 o'clock'.

LORD MERSEY.—Where is 'slow speed at 3 o'clock'? Is that it?

Mr. HAIGHT.—Yes sir, there.

LORD MERSEY.—Is it there and what is this here (indicating)?

Mr. HAIGHT.—This is 12 to 4.

LORD MERSEY.—What is that (indicating)?

Mr. HAIGHT.—That was written in by my assistant. The bottom of the page was written by the chief later.

Mr. GRIFFIN.—The last half is written in by the chief engineer.

LORD MERSEY.—This scrap log appears in two different persons' handwriting.

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Mr. HAIGHT.—Yes, my assistant has stated that the upper half is in his handwriting.

LORD MERSEY.—The latter half is in the—

Mr. HAIGHT.—Chief engineer's. I was going to go on with that when I had the chief engineer on the stand.

LORD MERSEY.—Never mind about the chief engineer getting on the stand at present; let us understand it now. Interpreter, is that the same as the other?

Mr. JENSEN.—Yes: "Slow speed at 3 o'clock"; "full speed till 3 o'clock."

LORD MERSEY.—Is slow speed the same as full speed?

Mr. JENSEN.—No.

LORD MERSEY.—Then, why do you say both are the same?

Mr. JENSEN.—Full speed till 3 o'clock—from three o'clock, slow speed.

LORD MERSEY.—That is another matter. It is slow speed till three o'clock.

Mr. JENSEN.—No. full speed till three o'clock.

LORD MERSEY.—Is it "at" three o'clock?

Mr. JENSEN.—Yes.

LORD MERSEY.—Where is your "at"?

Mr. JENSEN.—There is no "at" in it.

LORD MERSEY.—Why do you put it in?

Mr. JENSEN.—Because it says 'slow speed three o'clock'?

LORD MERSEY.—It says "slow speed three o'clock"?

Mr. JENSEN.—Slow speed three o'clock.

LORD MERSEY.—Do you understand that to mean that there was full speed till three o'clock?

Mr. JENSEN.—Yes.

LORD MERSEY.—And that after three o'clock it is slow?

Mr. JENSEN.—Yes.

LORD MERSEY.—And at 3.02 it is "stop."

Mr. JENSEN.—At 3.02 it was stop.

LORD MERSEY.—Possibly that is the meaning of it, Mr. Haight.

Mr. HAIGHT.—Yes, my Lord. I think the 'at' is really an effort to overtranslate.

Witness retired.

LORD MERSEY.—Who is the next witness?

Mr. NEWCOMBE.—Capt. Pouliot of the *Lady Evelyn* is here and if it would be convenient to take his testimony now he will be able to go back to the ship.

LORD MERSEY.—No, I am at one part of the case and I do not want somebody else to be dragged in.

Mr. HAIGHT.—Would your lordship allow Mr. Good to answer any question that the tribunal may wish to put to him so that he will not be held here till Monday? It was he who made the model. I think that Mr. Hillhouse agrees that it approximates to the right conformation.

LORD MERSEY.—Mr. Hillhouse, are there any questions that you think we need to put in respect to this model?

Mr. HILLHOUSE.—No, my Lord.

LORD MERSEY.—Very well, you can let him go, Mr. Haight.

SINGDAHLSEN.

SESSIONAL PAPER No. 21b

AARON SYVERTSEN, chief engineer, *Storstad*, sworn.

By Mr. Haight:

4841. Q. You were chief engineer of the *Storstad* at the time of the collision?—Yes, sir.

4842. Q. How long have you been chief engineer?—A. Three and a half years.

4843. Q. How long have you held a chief engineer's license?—A. Eighteen years.

4844. Q. You have been chief on the *Storstad* practically since she was launched?—A. Yes, since the ship was built.

4845. Q. Where were you when the *Storstad* actually collided with the *Empress of Ireland*?—A. In my bed.

4846. Q. When did you turn in?—A. Twelve o'clock.

4847. Q. Did you feel the jar of the collision?—A. Yes.

4848. Q. What did you do after the jar of the collision?—A. I turned out quickly.

4849. Q. Where did you go?—A. I ran out to the deck.

4850. Q. Did you go to the bridge?—A. I went into my room and put my clothes on. I was there about five minutes, then I ran out again after the engines were stopped and asked the captain what it was. He said it's a big boat that struck us. I ran right forward and looked at the damage. I see the bow was twisted in. I ran back to him and spoke about that. We could not understand where the boat had gone to. We never heard anything of it. The captain's wife was standing together with us and she spoke about it. We were standing there some minutes when I saw a black streak coming from the port bow.

By Chief Justice McLeod:

4851. Q. Of your own steamer?—A. Yes, we saw black smoke coming up.

By Mr. Haight:

4852. Q. Did you hear any sound?—A. After that we heard some shrieks and calls for help. The captain ordered all the boats to be lowered quickly and he called the men to come quick, quick, and lower them. We did that. Soon after that the first two of the *Empress* boats—

4853. Q. Never mind the rest of the story about the rescue; that has been fully covered. When was it that the entries were written up in the official engine room log?—A. Between eight and nine p.m.

4854. Q. The day of the collision?—A. Yes, the same day.

4855. Q. Between eight and nine o'clock that night?—A. Yes.

4856. Q. Is the official log in your handwriting?—A. Yes.

4857. Q. Will you please state where the entries were written in your room or where, and who was present when you started to make up the official log?—A. Yes, I called them in my room.

4858. Q. You called the assistant engineer to your room?—A. Yes.

4859. Q. Take the slip of the scrap log—A. I wrote it down, he has not made his finish down in the engine room before he came up.

4860. Q. What is that?—A. He make it up there in my room. He has so much work, so hard, he make it up after the best remember.

4861. Q. How long was it after the jar you went down in the engine room?—A. It was about three or four hours after.

4862. Q. Three or four hours. You called the third assistant into your room and you did his correct entries?—A. Yes.

4863. Q. Will you please tell me what you said to him and what he said to you about these scrap entries?—A. Yes, I told him to give me up the right time.

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4864. Q. What is that?—A. I told him to give me the right time after the order he got from the bridge. He only enter two or three points and after that he gave me the time he best remember.

4865. Q. When you saw the scrap entries you realized that more bells had been rung than he had recorded?

LORD MERSEY.—I don't realize that. He supposed that, he was not there.

By Mr. Haight:

4866. Q. Were you on the bridge while the captain was manœuvring the boat to bring her up to the *Empress*?—A. No, I went quickly down the deck.

LORD MERSEY.—I may be wrong, but I understood him to say that he did not come on the scene at all after the collision took place.

MR. HAIGHT.—He was in his bunk, my Lord.

By Lord Mersey:

4867. Q. He knows nothing about it till the collision takes place?—A. Yes.

4868. Q. Then he comes into the engine room?

MR. NEWCOMBE.—No, not the engine room, he was on deck.

By Mr. Haight:

4869. Q. Were you on the bridge any length of time after the collision happened, or were you working at the boats or what?—A. I was on the bridge after the collision.

4870. Q. How long were you on the bridge?—A. I think about five or eight minutes.

4871. Q. Were you on the bridge when you say you saw this black streak that was the *Empress*?—A. Yes.

4872. Q. What orders had been given on the telegraph while you were on the bridge to bring the *Storstad* up to the *Empress*?—A. Since I see the black streak come and hear the crash I ran quick down and the captain took the command of that.

4873. Q. Please tell us what the third assistant said to you when you told him about these entries if there was anything more to add—was there any discussion about it?—A. No.

4874. Q. As I understand when you first got this scrap book which the third engineer had written, you also made some entries on that scrap. Is that correct?—A. Yes.

4875. Q. May I have the exhibit handed to the witness. Now look at the entries on the date of the collision and state which part of those entries are in your handwriting?

By Lord Mersey:

4876. Q. Is it the lower part?—A. The lower part I wrote down.

By Mr. Haight:

4877. Q. According to my reading you copied the entries of the third assistant and then some other bells were also added. Is that correct?—A. Yes.

4878. Q. Now why did you add the other bells, those not appearing on the scrap book, not appearing in the assistant's entries?—A. I got them from the third engineer after his best recollection.

4879. Q. Did you understand that the third engineer had looked at the clock or that he had any precise knowledge of those?—A. No, I don't know.

4880. Q. Will you, chief, tell us some of the particulars about your engines. What is their indicated horse-power?—A. 3,500 horse-power.

4881. Q. What horse-power is she usually developing?—A. We use ordinary 2,400.

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4882. Q. What is your normal speed when fully loaded?—A. About ten miles an hour.

4883. Q. What is your normal steam pressure?—A. 180 lbs.

4884. Q. At what pressure do you blow off?—A. They blow off 180 lbs.

4885. Q. Do you always carry full steam?—A. Not always, different coal we have best steam.

4886. Q. Do you know anything about your pressure this night?—A. This time we had good coal. We have about 170 lbs.

4887. Q. You have a single screw?—A. Yes.

4888. Q. Is it right handed?—A. Yes.

4889. Q. Now when you are making your usual speed of ten knots loaded, about what are your revolutions per minute?—A. Between sixty-two and sixty-four.

4890. Q. Under the same conditions about how many revolutions do you make when you are running slow?—A. About forty revolutions, between thirty-five and forty.

4891. Q. And with those revolutions about what speed would you have through the water?—A. But I cannot tell you, three or four miles I think so.

4892. Q. Three or four miles?—A. Yes.

By Mr. Aspinall:

4893. Q. The first you knew of the collision was the crash? Is that so?—A. Yes.

4894. Q. Speak louder will you. Was it a heavy crash?—A. Oh I feel it heavy.

4895. Q. You felt it heavy?—A. Yes.

4896. Q. And what you did is turned out first of all and ran to the deck?—A. I ran on deck.

4897. Q. And then ran back to your room?—A. Yes.

4898. Q. And then ran back to the deck, is that right?—A. Yes.

4899. Q. Is it not usual for a chief engineer when he hears a crash like that to go to his engine room at once?—A. Yes, but the men had called all hands on deck.

4900. Q. Had they called all hands on deck?—A. Yes.

4901. Q. Who called that?—A. Some of the officers.

4902. Q. Is that why you did not go to the engine room?—A. The third engineer was down in the engine room.

4903. Q. Why did you not go to the engine room after you felt this crash?—A. No it must be fear of that first I must save my life.

4904. Q. I won't quarrel with that. That was your idea, save your life?—A. Yes, and the engine was stopped before I went out.

4905. Q. It was such a heavy crash was it that you thought the first thing was to save your life?—A. Yes.

4906. Q. And in fact you did not go into your engine room for three to four hours after the collision? Is that right?—A. Yes, sir.

4907. Q. Now I want you to help me if you can about this matter, if you cannot, say so. Your ship was travelling full speed till three o'clock?—A. Yes.

4908. Q. She was a heavily laden vessel was she not?—A. I don't know.

4909. Q. You know she had a great deal of coal in her, did you not?—A. No.

4910. Q. The chief engineer, surely you know?—A. No.

By Lord Mersey:

Q. Will you tell me, I am getting very stupid I am afraid, but what is it he does not know?

Mr. ASPINALL.—He does not know whether he was fully loaded or not.

By Lord Mersey:

4911. Q. Do you really mean that. Do you really mean to tell us you don't know?—A. No, I never asked them, for that is not my business.

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By Mr. Aspinall:

4912. Q. Mr. Engineer, if she was fully laden, she would carry her speed for a good way?—A. Yes.

4913. Q. So that at three o'clock when the order comes to go slow speed the ship does not go down to her slow speed, does she, for some little time?—A. Yes.

4914. Q. That is right, am I not right?—A. Yes, quite right.

4915. Q. And at three o'clock she was travelling at about ten knots if you are right?—A. Yes, they say so.

4916. Q. That is so, is it not. Till 3.2 she goes slow. We are told by the third engineer that the engines were put slow speed to 3.2 and then stop, and after that slow ahead?—A. Yes.

4917. Q. If those were the orders don't you think that this ship would have a good deal of headway through the water at that time?—A. Not much.

4918. Q. You know they are not put full speed astern till 3.5?—A. Yes.

4919. Q. Don't you think that this ship, until the engines were put full speed astern would be carrying her way on a great lot, having steerage way on her is what I meant.—A. No, I don't think she has speed for steering after that she stop. Ship goes down quick.

4920. Q. What?—A. Ship stand quick slow after its engine is stopped.

LORD MERSEY.—I don't in the least understand what you are saying. Will you say it again if it is of any importance.

By Mr. Aspinall:

4921. Q. What have you just said. You don't think something, what was it?—A. The ship has not much speed at the time she go astern.

4922. Q. What?—A. Before they ring astern the ship was about still, I think.

By Chief Justice McLeod:

4923. Q. About five minutes to three?—A. Yes.

By Mr. Aspinall:

4924. Q. When you entered up your log between eight and nine had the third engineer finished entering up his scrap log?—A. Yes, he handed it to me between eight and nine p.m. the same day.

4925. Q. Between 8 and 9 p.m. the same day?—A. Yes.

By Lord Mersey:

Q. At night?—A. Yes.

4926. Q. The night following the collision?—A. The same day in the evening.

By Mr. Aspinall:

4927. Q. Why did you add anything to the scrap log?—A. When the third engineer told me that and he gave me that after he best remembered.

4928. Q. But why? Why did you write in the same log book? Why?—A. Yes.

4929. Q. Why, not yes, why? Why did you do it?—A. Yes, he gave me that up.

4930. Q. Don't you understand my question, you have asked the interpreter to interpret?

Mr. HAIGHT.—Captain Jensen, ask him why he made the entry?

CAPTAIN JENSEN.—The answer is Yes, it is no answer that.

Witness (pointing to the log book). That is the right book, my log book, and it is most correctly in that.

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By Mr. Aspinall:

4931. Q. You are the chief engineer and I assume you are an intelligent man. Can I ask you why did you write something in the log book, the scrap log?—A. Yes, that man write badly and cannot spell it, and I take the paper from him in my room and put right down and write it correctly up, and after that I put in my log book.

By Lord Mersey:

4932. Q. He writes badly, he cannot spell? Can you show me a word there that he has not spelt properly?—A. Yes, there is some I cannot understand.

4933. Q. Can you show me a word he has not spelt properly?—A. There is that word (pointing to a word in Norwegian near the top of the page).

4934. Q. Let me see it, what is wrong with it? How ought it to be spelt? What is wrong with it?—A. There is not much wrong with it.

4935. Q. Is there anything wrong with it?—A. I write it more correctly.

4936. Q. You have said he did not spell right, and I asked which is the word that he spells wrong. It seems to me he spells it exactly as you do, and it may be that you both spell it wrong. Now wait a moment, get a better excuse. Put the question to him again.

By Mr. Aspinall:

4937. Q. The question you know chief engineer is this: Why did you write in that scrap book. Why did you do it?—A. Yes.

4938. Q. It is not yes, that is not an answer.—A. The time written is 3.20, and I put it down him from 12 to 4.

By Lord Mersey:

4939. Q. That is nothing to do with spelling?—A. It is not filled out.

4940. Q. Listen, that has nothing to do with spelling?—A. No. The third engineer did not fill it out.

4941. Q. You said just now you did not like his spelling.

By Mr. Aspinall:

4942. Q. Did this man tell you that he was not sure about his time, and he was not sure that he had got everything in the log?—A. Yes.

4943. Q. Have you any reason for not liking these logs of yours from the engine room department?—A. No.

4944. Q. Has anybody who was in charge of that ship told you that he does not like these engine room logs, the captain, or the chief officer, have they?—A. No.

By Lord Mersey:

4945. Q. Do you want to ask him anything, Mr. Newcombe?

By Mr. Newcombe:

4946. Q. When you got on the bridge immediately after the accident how did the telegraph to the engine room stand?—A. I don't see that.

4947. Q. You did not see it?—A. No.

4948. Q. And you don't know anything about what orders were given down?—A. No.

LORD MERSEY.—Have you anything more to ask, Mr. Haight?

MR. HAIGHT.—No, my Lord.

MR. NEWCOMBE.—My Lord, before the Court adjourns might I have these log books identified and marked, Scrap Log, Engineer's Log, and Bridge Log?

MR. HAIGHT.—My Lord, are they all to be marked now. Are you marking the translations as well?

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Mr. NEWCOMBE.—They want to verify the translations before they are marked. Keep them in the log book for the time.

The log books were then filed and marked.

The Commission thereupon adjourned, at 1.25 p.m., until Monday, June 22nd at 10 a.m.

SIXTH DAY.

QUEBEC, Monday, June 22, 1914.

The Commissioners appointed by the Honourable John Douglas Hazen, the Minister of Marine and Fisheries of Canada, under Part X of the Canada Shipping Act as amended, to inquire into a casualty to the British Steamship *Empress of Ireland*, in which the said steamship belonging to the Canadian Pacific Railway Company was sunk in collision with the Norwegian Steamship *Storstad*, in the River St. Lawrence on the morning of Friday the 29th day of May, 1914, met at Quebec this morning, the Twenty-second day of June, 1914.

LORD MERSEY.—We will sit to-day until 11 o'clock; we will then adjourn for the reception to His Royal Highness the Duke of Connaught. We will resume our sitting as soon as we can after the proceedings of the reception. The court will not sit between half past one, or twenty minutes after one, and a quarter to three, because some of us are engaged to attend a luncheon in honour of the Duke. To-morrow we propose to sit only until half past one and then the court will adjourn in order that those gentlemen who desire to pay honour to His Eminence, Cardinal Begin, may do so. Therefore, there will be no sitting in the afternoon.

LORD MERSEY.—We finished the evidence of Syvertsen, I think, on Saturday?

Mr. NEWCOMBE.—Yes.

LORD MERSEY.—Who is the next witness?

Mr. HAIGHT.—Call Einar Reinertz.

LORD MERSEY.—Mr. Newcombe, make arrangements for having, to-morrow, a life belt in the condition in which it is placed in the cabins and tied up so that we may examine it and see whether it is a handy thing and easy to put on.

Mr. NEWCOMBE.—Yes, my Lord.

EINAR REINERTZ, second officer, *Storstad*, sworn.

Mr. HAIGHT.—The witness's English, I think, will carry him through. I will ask Captain Jensen to be there in case he needs help.

By Mr. Haight:

4949. Q. Mr. Reinertz, you were second officer on the *Storstad* at the time of the collision with the *Empress of Ireland*?—A. Yes, sir.

4950. Q. How long had you been on the *Storstad*?—A. I joined in Sydney.

4951. Q. When did you join?—A. 29th of May—no, I am wrong; it was the 24th of May.

4952. Q. How long have you been going to sea?—A. About 12 years.

4953. Q. What vessel were you on before the *Storstad*?—A. I was with the same company on a steamship called the *Mandeville*.

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4954. Q. How long had you been on the *Mandeville*?—A. Thirteen months.

4955. Q. What papers have you?—A. A master's certificate.

4956. Q. How long have you held a master's certificate?—A. Two and a half years.

4957. Q. Where were you at the time of the collision?—A. I was sleeping when the collision occurred in my cabin and I jumped up.

4958. Q. It was your watch below?—A. My watch below.

4959. Q. Was it the jar of the collision that waked you?—A. Yes.

4960. Q. Was it a heavy jar?—A. No, sir.

4961. Q. Where did you go to when you felt the collision?—A. I went to the boat deck.

4962. Q. On which side?—A. The starboard side of the boat.

4963. Q. When you reached the boat deck could you see anything of the other steamer?—A. Yes, sir, I saw the lights of the *Empress* going from the port bow and they went over to the starboard bow. It was moving fast too.

By Lord Mersey:

4964. Q. What?—A. It was moving fast.

By Mr. Haight:

4965. Q. Am I to understand that this was after the collision?—A. Yes.

By Lord Mersey:

4966. Q. According to your view, was the *Empress* carrying the *Storstad* along the water?—A. I do not catch the question.

4967. Q. As I understand, you say that when you came up on deck the collision had taken place?—A. Yes, sir.

4968. Q. Was the nose of the *Storstad* at that time in the side of the *Empress*?—A. I could not tell you, sir.

4969. Q. You do not know whether the nose of the *Storstad* was in the side of the *Empress* or not, but you do know that the collision had taken place?—A. I knew the collision had taken place but I could not see which part of the ship it was; it was dark.

4970. Q. I only want the best information you can give us. You saw the *Empress* was moving forward?—A. Yes.

4972. Q. And that was after the collision?—A. Yes, but it did not take me a long time to go up.

4973. Q. But the collision took place when you were in your bunk?—A. Yes.

4974. Q. You jumped up and ran on the boat deck?—A. Yes.

4975. Q. And you cannot tell us whether, when you got up on the boat deck, the two vessels were actually fast together?—A. No, I cannot tell that.

4976. Q. You do not know that, but you say that whether they were fast together or not the *Empress* was moving fast forward—is that it?—A. Yes, sir.

By Mr. Haight:

4977. Q. Where is your room, Mr. Reinertz?—A. On the port side of the ship, about midships.

4978. Q. When you looked out forward from the starboard side were you standing about amidships?—A. On the boat deck.

4979. Q. When you stood on the boat deck how far were you from the bow of the *Storstad*?—A. About the middle of the *Storstad*.

4980. Q. About the middle of the ship?—A. Yes.

By Lord Mersey:

4981. Q. You mean amidships of your own ship?—A. Not exactly, but about.

4982. Q. About amidships?—A. Yes.

By Mr. Haight:

4983. Q. Could you tell anything about the angle in which the vessels were lying when you got up?—A. No, sir.

4984. Q. You were too far aft to see?—A. Yes.

4985. Q. Did you receive any orders from Capt. Andersen?—A. Yes, to lower the boats.

4986. Q. What did you do?—A. I lowered them.

4987. Q. What boats did you handle yourself?—A. Starboard No. 2.

4988. Q. Were the boats cleared and the men standing by before you received the order to lower?—A. Yes, they were standing by. I was going down when I heard the cries of the *Empress* people and we lowered the boat at once.

4989. Q. How long did you have your boats ready to lower before you ordered them lowered away?—A. About four or five minutes.

4990. While you were working on the boats and while you were waiting to lower, did you hear any whistles blown by the *Empress*?—A. No, I did not.

4991. Q. Did you hear any whistles blown on the *Storstad*?—A. Yes.

4992. Q. What whistles did your steamer blow?—A. They were blowing several whistles—I could not tell which blow it was; several whistles were blown by the *Storstad*.

LORD MERSEY.—I do not follow what he says.

Mr. HAIGHT.—He says they were blowing several whistles; he does not know exactly what they were, but they were blowing several whistles.

4993. Q. (To witness.) What was it that first called to your attention the fact that you were near the *Empress*; what did you hear?—A. Excuse me, I do not understand.

4994. Q. What did you hear after you had been waiting three or four minutes which indicated to you that the *Storstad* was near the *Empress*?—A. The cries of the people.

4995. LORD MERSEY.—‘Was near the *Empress*,’—do you mean in actual contact?

Mr. HAIGHT.—No, sir.

LORD MERSEY.—I do not know what ‘near’ means.

Mr. HAIGHT.—She was in the fog.

LORD MERSEY.—This man did not come on deck till after the collision?

Mr. HAIGHT.—Yes, my Lord, and I am asking him how he knew when to lower his boats when the *Storstad* had worked back towards the *Empress* ten minutes after the collision.

(To Witness.)

4996. Q. You heard the cries of the people?—A. Yes.

4997. Q. How soon were your boats lowered after you heard the cries?—A. Directly—at once.

4998. Q. You were in starboard No. 2?—A. Yes.

4999. Q. When you lowered your boat into the water do you know whether the engines of the *Storstad* were still moving?—A. The engines were moving.

By Lord Mersey:

5000. Q. Were not?—A. Were moving.

By Mr. Haight:

5001. Q. How do you know that?—A. I could see the propeller water.

5002. Q. When you lowered No. 2 starboard boat, which way had you to row away from the *Storstad*?—A. I had to go astern because the propeller took the boat a little ahead.

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5003. Q. When your boat dropped into the water the quick water from your propellers carried you forward?—A. Yes, and I steered out to go astern.

5004. Q. When you went around under the stern of the *Storstad*, was your propeller still moving?—A. I cannot remember that.

5005. Q. Did you see the *Empress* before she went out of sight in the water?—A. Before she foundered?

5006. Q. Yes.—A. I did, I had one boat loaded with people before she went down.

5007. Q. How far was the *Empress* from the *Storstad* as you rowed from your vessel toward the sinking steamer—could you tell?—A. About two ship's lengths.

5008. Q. How many minutes did it take you from the time your boat was in the water to row up to the place where the people were swimming in the water?—A. About two or three minutes—two minutes.

5009. Q. How many people did you pick up in your boat on the first trip?—A. I rescued about fifty people on the first trip.

5010. Q. What is the capacity of your boat?—A. 30.

5011. Q. How did you get 50 people into a boat that accommodates 30?—A. We were overloaded because we had to save as many people as possible; people were crying out not to take any more but we had to take as many as possible because there was not a moment to lose.

5012. Q. You returned with your first load of people to which vessel?—A. To the *Storstad*.

5013. Q. Then, did you go back a second time?—A. Yes, I did.

5014. Q. Had the *Empress* gone down before you got back the second time?—A. She had gone down when we came back the second time.

5015. Q. Did you see her go down on your first trip or did she go down between the first and second trip?—A. On my return from the first trip I saw her go down.

5016. Q. When you left with the first boat load the *Empress* could still be seen?—A. Yes.

5017. Q. How many people did you get on the second trip?—A. About 13.

5018. Q. Why did you not get more on the second trip?—A. Because we did not see any more alive.

5019. Where did you take these?—A. To the *Eureka*.

5020. Q. Did you make a third trip?—A. Yes.

5021. Q. Did you find any living passengers there?—A. Yes, some were standing on a boat, and one man who was half dead was lying on the boat. He was picked up.

5022. Q. Did you also pick up some dead bodies?—A. Yes, we did, sir.

5023. Q. Who were the men who were the crew in your boat?—A. I do not know them by name; the cook is one—Jensen. I do not know their names.

By Lord Mersey:

5024. Q. Were they men from the *Empress*?—A. From the *Storstad*.

Cross-examined by Mr. Aspinall:

5025. Q. How many years have you been serving on colliers?—A. About five or six years.

5026. Q. When did you turn in on this night?—A. 12 o'clock.

5027. Q. Do you regularly take your clothes off and turn in?—A. Yes I do, of course.

5028. Q. I am not blaming you. If your engines stop does that wake you when you are at sea?—A. Not always.

5029. Q. More or less?—A. I cannot tell; I do not know much about these engines, because I am quite new on the boat.

5030. Q. You heard the jar and you awoke?—A. Yes.

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5031. Q. Have you electric light in your cabin?—A. Yes.

5032. Q. Did you turn it on?—A. Yes.

5033. Q. What clothes did you put on?—A. I was naked when I went out.

5034. Q. You went out as you were?—A. Yes.

5035. Q. You ran out from your cabin, which was lighted by electricity, on to the boat deck that would be dark. There was nothing to light that up?—A. No.

5036. Q. Do you think you really noticed much about the *Empress*?—A. I saw her and noticed she was moving fast.

5037. Q. I was wondering whether you had a good opportunity of witnessing really what she was doing.—A. Yes, I had.

5038. Q. You say you saw her moving fast and you ran to where—to the navigation bridge?—A. No I did not; I ran to the boat deck as I told you before. I ran from my cabin to the boat deck and there stopped to get the boats ready.

5039. Q. Did you get any order at once from the bridge?—A. I got an order to have ready the boats and I knew, myself, what to do.

5040. Q. When you got up and saw the *Empress* was she then at about right angles across your bows? You know what I mean by right angles?—A. Yes.

5041. Q. Was she about right angles across your bow when you got up?—A, I could not say anything about angles, sir.

5042. Q. But you say she was moving?—A. Yes.

5043. Q. I will not say anything about right angles—was she still across your bows when you got up?—A. I could not tell what part of the ship I saw.

5044. Q. I think you told Mr. Haight that when you saw her she was moving fast forward from port to starboard?—A. Yes, I did.

5045. Q. That is what you said?—A. Yes.

5046. Q. Does that mean that when you came up she was still across your bows. Here (illustrating) is the port side and here is the starboard side?—A. Yes.

5047. Q. Is that so?—A. I do not understand you quite well.

5048. Q. I will tell you what I have in my mind. You no doubt came up very quickly after the crash and you found her across your bows; my suggestion will be that she was not travelling fast forward because she would probably have been brought over there on your starboard bow?—A. I saw her coming from port over to starboard and she was moving fast. I cannot tell any more.

By Lord Mersey:

5049. Q. But you must just try to answer the question.—Yes, I am.

LORD MERSEY.—Do not say you can tell us simply that and no more. Just wait till you hear the questions and say whether you can answer them.

By Mr. Aspinall:

5050. Q. When you did see her, in fact, she was across your bows, part on your port bow and part on your starboard bow; is that right?—A. Yes.

5051. Q. At the time when you got up on to the boat deck do you know what was being done with your engines?—A. No.

5052. Q. Were they working ahead or astern?—A. I cannot tell anything about them.

5053. Q. You did not notice; I expect you had a good deal to attend to?—A. Yes.

5054. Q. However, I am right in this that, whatever was being done with your engines and whatever was being done with the *Empress*, the two ships remained pretty close to one another from that time until you got your boats out and began to save life?—A. Yes, they were.

5055. Q. After the collision happened you got up on deck and put your boats into the water to save life? From that time were the ships still close to one another?—A. I did not see the ship then.

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5056. Q. You did not lose sight of it?—A. I was in my boat then.

LORD MERSEY.—He turns towards you and he talks in a manner that is not intelligible. I do not hear what he says.

By Mr. Aspinall:

5057. Q. Will you try and talk just a little slower and turn more that way (pointing towards the bench)? I know it is very difficult. When you did put your boat into the water to save life did you find that these people who were in the water were quite close?—A. They were not far off us.

By Mr. Haight:

5058. Q. From the time that you got on deck until the *Empress* disappeared how much time do you think elapsed before you again saw her when you were in No. 2 boat?—A. I cannot tell.

5059. Q. After you came on the boat deck and saw her forward, how soon was it before she disappeared in the fog?—A. It was directly.

5060. Q. Will you please state just what you saw when you say you saw the *Empress* forward as you came on to the deck?—A. When I came on the deck I saw the lights, cabin lights, of the *Empress*, and I saw it was moving from our port bow.

5061. Q. I only want to know what you saw.

LORD MERSEY.—Repeat that, because it is the one thing he does remember. I understand that he wants us to accept his statement that he remembers nothing else. Am I right about that; all that you remember is that you saw the lights of the *Empress* and that she was moving quickly forward?—A. Yes.

5062. Q. That is all you remember about the *Empress*?—A. Yes.

By Mr. Haight:

5063. Q. Did you see any coloured lights?—A. No, I didn't.

By Lord Mersey:

5064. Q. I want to ask you this. You rowed towards the place where the *Empress* was or had been?—A. I rowed towards where the people were.

5065. Q. I am asked to ask you this: when you went towards the *Empress* or towards the place where she had been, what was the position of the *Empress* then, do you know?—A. I don't know the position.

5066. Q. Could you see any of the decks of the *Empress*?—A. No, I couldn't tell you.

5067. Q. Did you see her hull?—A. Yes, I saw her hull.

5068. Q. When did you see her hull?—A. When I was coming a little way from the stern.

5069. Q. That was while you were still on the *Storstad*?—A. No, I was in the small boat.

5070. Q. Was that the first boat that you went in?—A. Yes.

5071. Q. What part of the hull, can you tell us, was it that you saw?—A. Don't know; wasn't noticing.

By Mr. Newcombe:

5072. Q. Did you see the *Empress* sink? Did you see her when she went down?—A. Yes.

By Lord Mersey:

5073. Q. Did you see her plunge into the sea?—A. Yes, I did.

By Mr. Newcombe:

5074. Q. How did she go down?—A. I can't tell you.

5075. Q. Do you know whether she went down with her bow first, her stern first, or sideways?—A. I didn't notice that; I was too busy.

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5076. Q. You cannot tell?—A. No.

5077. Q. Did you see any part of the *Empress* come up above the water? Did you notice any elevation of any part of the hull?—A. No, I didn't notice it.

By Sir Adolphe Routhier:

5078. Q. How far away were you when you saw the *Empress* sinking?—A. I wasn't far off.

5079. Q. How far?—A. Not far.

5080. Q. How far, can you say?

By Lord Mersey:

5081. Q. How many of your ship's lengths were you away?—A. Half ship's length.

5082. Q. Your ship is about 400 feet long?—A. 450.

5083. Q. You say that when the *Empress* went down you were about 200 or 300 feet away from her? Is that your idea?—A. Yes, I was close to her; that is my idea.

By Sir Adolphe Routhier:

5084. Q. In your boat?—A. In the small boat.

LORD MERSEY.—Do you wish to ask the witness any question, Mr. Gibsone?

MR. GIBSON.—No, my Lord.

Witness retired.

KNUTE TONDER, sailor, *Storstad*, sworn.

Examined by Mr. Haight (through interpreter):

5085. Q. You were one of the sailors on the *Storstad* at the time of the collision?—A. Yes.

5086. Q. When did you join the *Storstad*?—A. 11th of May.

5087. Q. How long have you been going to sea?—A. Two years and a half.

5088. Q. What was your watch on deck on the night of the collision?—A. Watch from 12 to 4.

5089. Q. When you came on watch at 12, what did you first do?—A. I was on the lookout from 12 o'clock until 20 minutes past one.

5090. Q. And after you left lookout at 1.20, what did you then do?—A. Went to the wheel.

5091. Q. How long were you at the wheel?—A. Twenty minutes to three.

5092. Q. When you left the wheel who relieved you?—A. Peter Johannsen.

5093. Q. When you were relieved, where did you go?—A. Aft in the forecabin.

5094. Q. What were you doing back there?—A. Taking a smoke.

5095. Q. While you were off duty between 2.40 and 4, what was the first thing that you noticed about your engines that was out of the usual?—A. No, sir.

5096. Q. Please state whether you noticed any change in your engines while you were back there smoking?—A. Not before they stopped.

5097. Q. After the engines stopped, did you notice any other change?—A. When the engines stopped, I went on deck.

5098. Q. Now, what happened after you came on deck?—A. Three or four minutes after I came on deck the collision happened.

5099. Q. Do you know how your engines were running just before the collision?—A. Astern.

5100. Q. Did you see the other steamer at any time before the collision?—A. When I came we had the other steamer just on the port bow.

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5101. Q. Before the vessels came together, could you tell whether the other steamer was moving or not?—A. No, sir.

5102. Q. When you saw the other steamer, what did you do?—A. I stayed aft until the collision happened and then I went forward.

5103. Q. What did you do when you went forward?—A. I got orders to go to the life boat.

5104. Q. Which boat were you on?—A. Starboard boat.

Cross-examined by Mr. Aspinall:

5105. Q. Did you say that you came out from the fore-castle three or four minutes before the collision?—A. I can't say exactly; I had no watch.

5106. Q. But you have said so, haven't you?—A. Yes.

5107. Q. "As soon as I came out, I saw the *Empress* on my port bow"?—A. Yes, sir.

5108. Q. Is that right?—A. Yes, sir.

5109. Q. How far do you think you could see the masthead light?

LORD MERSEY.—(to interpreter).—What did you say to him? In the language which you are using, what did you say?

(Question repeated by Interpreter in Norwegian language).

LORD MERSEY.—That was not the question.

The INTERPRETER.—That is what I understood.

LORD MERSEY.—It was "how far," not "how long." In Norwegian is "wie lange," the same as "wie weit" in German?—A. Yes.

5110. Q. Do you know German?

The INTERPRETER.—Yes, my Lord.

LORD MERSEY.—Do you know the difference between "wie lange," and "wie weit"?

The INTERPRETER.—Yes, I know the difference, but it is not the same in Norwegian.

LORD MERSEY.—It is a very great difference.

The INTERPRETER.—It is a very great difference, yes; one means "how long," and the other means "how wide."

LORD MERSEY.—(to Mr. Aspinall).—I understood you to ask him "how far," and the interpreter certainly asked him "wie lange," which seems to me to be not the interpretation.

The INTERPRETER.—My Lord, it is the exact interpretation in our language.

LORD MERSEY.—I am not criticising your Norwegian, because I do not understand it, but it seemed to me that the interpretation was not accurate.

By Mr. Aspinall:

5111. Q. Put it to him again.—A. I can't say.

LORD MERSEY.—Ask him to form an estimate, if he can?—A. No, I can't say that.

By Mr. Aspinall:

5112. Q. When you saw this vessel on your port bow first, how far away was she from you?—A. I can't say.

5113. Q. Do you often keep the lookout?—A. Yes.

5114. Q. And you have to judge distances at sea?—A. Yes.

5115. Q. Do you usually remember what is being done with your engines?—A. I could hear them ring up full speed astern.

5116. Q. Where were you when you could hear them ring up full speed astern?—A. I didn't hear the bell from the engine room; I noticed it by the vibration.

5117. Q. Why do you say you did not hear them ring up full speed astern?—A. I could notice that the propeller was working astern.

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By Mr. Haight:

5118. Q. Where were you standing when you say you felt the vibration of the engines going astern?—A. In the forecastle door.

5119. Q. How near is that to the stern of the ship?—A. Seven or eight feet.

5120. Q. Are all the crew's quarters in the stern of the ship?—A. Yes, sir.

Witness retired.

AAGE ANGESEN, was called and sworn.

At 11 o'clock the Commission rose to attend the reception to His Royal Highness the Governor General in another part of the Court House.

The Commission resumed at 11.40 a.m. after attendance at the reception to His Royal Highness the Governor General.

AAGE ANGESEN, sailor on the *Storstad*, sworn.

The examination of this witness was resumed.

By Mr. Haight:

5121. Q. Were you one of the sailors on the *Storstad* at the time of the collision with the *Empress*?—A. I was fireman on board the *Storstad* at the time of the collision.

5122. Q. Were you on duty at the time of the collision?—A. I just came on deck.

5123. Q. What had you been called for?—A. To hoist ashes.

5124. Q. Where did you come on deck? Forward or aft?—A. Aft.

5125. Q. Where are the crew's quarters?—A. Aft.

5126. Q. Do you remember hearing any whistle from your boat or from any boat?—A. No, sir.

5127. Q. Were you on deck before the collision occurred?—A. Yes.

5128. Q. Did you feel the jar when the boats came together?—A. A little bit.

5129. Q. Did you see anything of the other steamer before you felt the jar?—A. Yes.

5130. Q. What did you see?—A. I saw the lights.

5131. Q. How many lights?—A. I do not know, I cannot say that.

5132. Q. Was anybody else on the deck aft with you?—A. One by the name of Knute.

5133. Q. Where were the lights of the other steamer that you saw?—A. Right forward.

LORD MERSEY.—I don't know Mr. Haight what lights you are referring to.

MR. HAIGHT.—The lights of the other steamer.

LORD MERSEY.—Yes, but I don't know whether he understood you to be speaking of the lights generally or of any light in particular.

MR. HAIGHT.—Well perhaps I should make it more definite, my Lord.

5134. Q. Well what kind of lights were they that you saw on the other steamer?—A. White lights.

5135. Q. But can't you say more than that? Were they masthead lights or some other kind of lights?—A. I can't say. I only saw lights, and I can't say what they were.

5136. Q. Well did you see many or few?—A. I saw a good deal.

5137. Q. A good many?—A. Yes, a good many.

5138. Q. After you felt the jar of the collision, what became of the lights on the other steamer?—A. They disappeared to the starboard.

MR. HAIGHT.—That is all, my Lord.

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Mr. ASPINALL.—No questions.

KARL JANSEN, sworn.

Mr. HAIGHT.—My Lord, I am afraid this witness doesn't speak very much English. We will have to avail ourselves of the service of the Interpreter.

LORD MERSEY.—Very well.

By Mr. Haight:

5139. Q. Were you one of the sailors on board the *Storstad* at the time of the collision?—A. Fireman.

5140. Q. Where were you when the collision happened?—A. In bed.

5141. Q. What aroused you?—A. The jar.

5142. Q. What did you do after you felt the jar of the collision?—A. I ran up.

5143. Q. Where are your quarters?—A. Aft.

5144. Q. And when you came on deck aft where did you go?—A. Right outside the door.

5145. Well did you stand amidship or did you go to one side or the other?—A. Right under the entrance down to the forecandle on the starboard side.

5146. Q. Did you see anything at all of the steamer then, the other steamer?—A. I could see the loom of the hull.

5147. Q. Where was it?—A. Just broadside on the bow, right across our bow.

5148. Q. When you came up to the door and looked up, what did you do next?—A. I jumped down into the forecandle again.

5149. Q. What for?—A. To put my coat on.

5150. Q. And then where did you go?—A. On deck.

5151. Q. What did you do on deck?—A. I went to the boat deck.

5152. Q. Did you go to one of the boats?—A. Yes.

5153. Q. Which boat?—A. No. 2 on the starboard side.

5154. Q. When you got up on to the starboard side and at boat No. 2 on the starboard, where was the *Empress*?—A. I don't know, I couldn't see her.

5155. Q. Did you look to see her?—A. No.

Mr. HAIGHT.—That is all.

Mr. ASPINALL.—No questions.

LUDWIG LARSEN, coal passer, *Storstad*, sworn,

By Mr. Haight:

5156. Q. Were you a coal passer on the *Storstad* on the night of the collision?—A. Yes, sir.

5157. Q. How long had you been on the steamer?—A. Twenty-seven months.

5158. Q. Was it your watch below?—A. Yes, sir.

5159. Q. Were you awakened before the collision?—A. Yes.

5160. Q. What awakened you?—A. When the *Storstad* commenced to go astern.

5161. Q. Why did that wake you up?—A. The vibration woke me up.

5162. Q. Well, what did you do after you felt the vibration and woke up?—A. I went on deck.

5163. Q. Did you get on deck before you felt the jar of the collision?—A. No.

5164. Q. Where were you when you felt the jar?—A. On the way to the deck.

5165. Q. On what were you, on the way to the deck?—A. On the companion-way.

5166. Q. On the ladder?—A. Yes, on the ladder.

5167. Q. And when you got on deck, which side did you go to?—A. To the starboard side.

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5168. Q. When you got up on to the starboard side, did you see anything then of the other steamer?—A. I saw a light on the starboard side.

5169. Q. Could you see the outline of the ship or just see the white light?—A. Only the light.

5170. Q. Could you tell whether you saw the whole of the other ship or any part of it?—A. I could just see the loom of the hull.

5171. Q. How much of the ship do you think was then to the starboard of your bow?—A. I can't say that.

5172. Q. What did you do after you looked forward and saw the vessel?—A. I went to the boat deck.

5173. Q. What did you do there?—A. Helped to get the boats out.

5174. Q. And what was the last you saw of the other steamer?—A. I saw it disappear on the starboard side.

5175. Q. How many trips did you make in the boat?—A. I made two trips in one of the *Empress* boats.

5176. Q. Did you give up any of your clothes to the survivors?—A. No.

Mr. HAIGHT.—That is all.

Mr. ASPINALL.—No questions.

Mr. HAIGHT.—Mr. Aspinall, I have here the oiler who has been referred to as being in the engine-room. I don't think he remembers much, but I will be glad to put him on the stand if you desire.

Mr. ASPINALL.—My Lord, Mr. Haight tells me that this man doesn't remember very much, so I do not suppose that he will assist us much.

LORD MERSEY.—Mr. Haight, I think unless you desire to examine him that we will not need him.

Mr. HAIGHT.—Well, my Lord, he remembers he answered some bells, but he doesn't remember what the bells were, so I don't think his evidence will be of much value.

LORD MERSEY.—Well, I understand that Mr. Aspinall does not want him.

Mr. ASPINALL.—No, my Lord, in view of Mr. Haight's statement that he remembers very little.

Mr. HAIGHT.—That, my Lord, completes the testimony of the officers and crew of the *Storstad*. There is one witness that we would like to examine later, on more technical questions.

LORD MERSEY.—By technical questions I take it you mean as to the damage that was done to the steamer *Storstad*.

Mr. HAIGHT.—Yes, my Lord, I mean a naval architect, who has examined very minutely the stem of the boat, and who, by reference to the plans that have been submitted here, will be able to show the court the relative levels of the different decks. But I would like to put that on after Mr. Hillhouse has been examined, and after we have got a little more data than at present.

LORD MERSEY.—That is convenient is it not, Mr. Aspinall?

Mr. ASPINALL.—Yes, my Lord.

LORD MERSEY.—Then who will be the next witness?

Mr. ASPINALL.—My Lord, I make this application. Your Lordships will remember that you desired Mr. Newcombe to put in the log of the *Storstad*?

LORD MERSEY.—Yes.

Mr. ASPINALL.—We have cross-examined the gentleman who entered up the engineer's log, but I have not had an opportunity yet of cross-examining the gentleman who wrote up the ship's log. The ship's log, as I expected, is in general accord

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with the story told in the witness box, but still I think it is desirable to have the story of the log sifted in cross-examination.

LORD MERSEY.—Very well—it seems to me that it was the first mate who wrote up the ship's log of the *Storstad*, am I not right?

MR. HAIGHT.—Yes, my Lord, Mr. Toftenes.

LORD MERSEY.—Is he here?

MR. HAIGHT.—Yes, my Lord, I have kept him here.

LORD MERSEY.—Very well, will you please let him go back in the witness box?

MR. HAIGHT.—Yes, my Lord, I will have him called. I might inform your Lordship that we have a translation of the ship's log which I think will be of help to your Lordship.

LORD MERSEY.—Yes, Mr. Haight, I understand you are now handing in a translation of the ship's log.

MR. HAIGHT.—Yes, my Lord.

LORD MERSEY.—Do you agree, Mr. Aspinall, that we may accept this as a translation?

MR. ASPINALL.—My Lord, we have seen the translation, and I am told that we agree on its being correct.

LORD MERSEY.—Very well, let this be marked as an agreed translation of the *Storstad's* log.

MR. HAIGHT.—That log will be exhibit No. 16 of the *Storstad*.

TOFTENES, 1st officer, *Storstad* (re-called).

By Mr. Aspinall:

5177. Q. Mr. Toftenes, did it commence to be slightly foggy at 1.30 a.m. on the night of the collision?—A. Yes, I saw something like a slight fog-bank over the land.

LORD MERSEY.—What is that, Mr. Aspinall?

MR. ASPINALL.—My Lord, I asked the witness whether I was right in suggesting that at 1.30 a.m. it commenced to be slightly foggy, and he answered: 'Yes, I saw something like a slight fog-bank over the land.'

LORD MERSEY.—Where is this, Mr. Aspinall?

MR. ASPINALL.—In the copy I have, my Lord, it is page 146 on the right hand side about the eighth line down from the top, where it reads: 'Two o'clock saw Father Point—two-fifty the same was bearing, etc—' and then comes the sentence beginning 'At one-thirty.'

5178. Q. You say you saw a slight fog-bank over the land?—A. Yes, hazy-like.

5179. Q. Did it keep over the land?—A. It was over the land, yes.

5180. Q. You are sure that was it?—A. Yes.

5181. Q. It didn't come out to sea?—A. No.

5182. Q. What direction was the wind blowing?—A. There was hardly any wind at all. I don't remember the direction.

5183. Q. There was hardly any wind at all, so you don't remember the direction?—A. No, sir.

5184. Q. And did the fog go out over the river?—A. It showed over the land. It didn't come out over the river then.

5185. Q. It didn't come out over the river then?—A. No, sir.

5186. Q. And were the lights at two-fifty entirely hidden?—A. About that time.

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5187. Q. That is the right time, isn't it—at 2.50, the lights were entirely hidden?—A. The time that is in the log is the right time.

5188. Q. Let me read what I find in the log—it reads thus: 'At 1.30 it commenced to be hazy over the land, and fog came down over the river so that the lights at 2.50 were entirely hidden.' Was this fog travelling out from the land over the river?—A. It came out from the land, yes, the fog.

5189. Q. Your speed was not reduced at all, was it?—A. No, there was no need for it.

5190. Q. Was your whistle blown?—A. No.

5191. Q. So that the lights at 2.50 were entirely hidden?—A. Yes.

5192. Q. Did the collision happen ten minutes later?—A. About that.

5193. Q. So that at ten minutes before this collision the fog was so thick that the lights were entirely hidden, is that right?—A. That is right, what the log says.

5194. Q. Is the log right?—A. The log is right.

5195. Q. Now you have told us the other day that the collision happened at three o'clock?—A. Well about three o'clock.

5196. Q. Well, if you like, about three o'clock—am I right in saying—I have before me the engineer's log—I want you to follow me now, because I am now coming to the engineer's log, and I will tell you what is in it so that you may appreciate my question. The engineer's log tells us that full speed was kept until three o'clock, and full speed astern just before the collision happened was given at five minutes past three o'clock. Do you see?—A. Yes.

5197. Q. Now if the lights were entirely hidden at 2.50, you were travelling on at your full speed, were you not, for five minutes, although you could see that the lights were entirely shut out?—A. But the time by the engine-room clock and the time by my log might not be entirely the same.

5198. Q. No, but I am putting them the same?—A. They are shown by two different clocks.

5199. Q. That seems to you possibly to be an excuse, but it does not seem to me that it is a good one?—A. I mean this, that the chart-room clock and the engine-room clock were not entirely the same time.

5200. Q. You are quite right, did you know that?—A. I don't know what was the difference between them.

5201. Q. But the difference is five minutes. And my point is this: I am not troubling for the moment about that time, but at two-fifty the lights were entirely hidden were they not?—A. Yes.

5202. Q. Ten minutes later, according to your time, the collision happened?—A. Yes.

5203. Q. So I have my ten minutes, you see, and then I look at the engineer's log and I find that until three o'clock the engines were being worked at full speed. astern, and in thirty seconds the collision happened. There I have an interval of five minutes, you see. In other words, your engines were kept going at full speed, until within five minutes of the collision?—A. No, I don't think so.

5204. Q. Well, there is a slow, yes..... don't you think that is right?—A. No, I do not.

5205. Q. It would not have been right if you had seen the lights entirely hidden to go on at your full speed, would it?—A. No, and I didn't do it.

5206. Q. Well, the rest is argument, and we can see later on. However, you say it would not be right, and you didn't do it?—A. No.

5207. Q. Because to run into a fog at your full speed is quite wrong, isn't it?—A. It is.

5208. Q. Very well then, I will read on what I find in your log. It says in this document 'At 2.50 there was considerable fog' and with that you agree, I understand;

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at 2.50 there was considerable fog?—A. The fog would be about six or seven miles away from me then, because that is the distance off that the lights were hidden.

5209. Q. And then it says 'Three a.m., course steered west by south,' and at three o'clock, 'collision with another steamer.' And then, in another part of the log.... the log rather jumps about.... it says '2.30 a.m. saw steamer's top lantern about two points on the port bow. Immediately after, her green side light.' Did you see her green side light immediately after seeing her top lantern?—A. Well to the best of my recollection it was some minutes afterwards.

5210. Q. Is it usual to pick up a green light only about a minute after seeing a top lantern?—A. It depends on the condition of the air, and the lights.

5211. Q. Well, you have no complaint about the lights of the *Empress*, have you?—A. No, I have not.

5212. Q. With regard to the condition of the affairs, when you first saw the lights of the *Empress* was it a fine clear night?—A. It was fine and clear where we were, where my ship was.

5213. Q. And how far off did you see the masthead light of the *Empress*?—A. I guess about six or seven miles off.

5214. Q. Did you immediately after see her green light?—A. I can't say how long after it was, but some time afterwards, a little afterwards.

5215. Q. I am reading your log, you know. And then you see you say that you saw her change her course and show her red side-light about one and a half points on the port bow, therefore red to red?

'*Storstad's* course was held steady, unchanged. A few minutes later the other steamer's lights were hidden in a fog-bank. *Storstad* was herself in clear weather and a long whistle signal was heard, which was answered by a similar one. At the same time the speed was slowed down to slow. Now the *Storstad* also came into the fog. Immediately afterwards the engines were stopped and the ship was so steering as to keep her on her course. At the same time, three short blasts were heard from the other boat on the port side which was answered by a long blast. About five minutes after the engines were stopped, the course being against the down-flowing current, her speed was so greatly reduced that it was feared she would swing to port. To prevent this, the port helm was ordered. However, it turned out that the vessel's speed was so greatly reduced that its course was not altered.'

5216. Q. There is nothing in this document to tell anybody reading it that the helm was hard-a-port..... I don't find the word 'hard-a-port' in this document?—A. No, because that is a thing I didn't know about.

5217. Q. So when you wrote up this document you had not even been told yourself that the helm had been put hard-a-port?—A. I must not have been, because if I had been I would have written it.

5218. Q. That does not necessarily follow, you know?—A. If I was to write the truth I would.

5219. Q. Is it a fact that when you wrote up this document you had never been told that your helm had been put hard-a-port?—A. I can't remember now, but I don't think I have been told.

5270. Q. I don't find it here?—A. Then I wasn't told.

5271. Q. When it did come to your knowledge were you surprised? Hard-a-port in a fog?—A. By the way the ship kept, I don't think I would be very much surprised.

5272. Q. All you wanted to have done, you the navigating officer, was to have your helm put a-port? That is all you wanted?—A. That was my orders.

5273. Q. And if the order was carried out, that would satisfy you?—A. So far it did satisfy me.

5274. Q. You were satisfied?—A. Yes.

5275. Q. Can you conceive of any reason why this other gentleman put the helm hard-a-port?—A. I think he said the reason himself. He didn't tell me it.

5276. Q. Well what was the reason he told us. . . . you said you thought he said the reason himself?—A. I didn't hear his exact answer to that.

5277. Q. Well then, you proceed in your log and tell much the same story that you have told us here?

LORD MERSEY.—I haven't quite caught just when this log was written up?

MR. ASPINALL.—I was going to ask him that, my Lord.

5278. Q. Then, Mr. Toftenes, you go on, and in substance the story is the same as you have told in the box?—A. Yes.

5279. Q. I want to call your attention to the last part: 'The other steamer, however, proceeded with so much speed ahead. . . . ' my Lord, it is at page 148 the last part of the page. . . . 'the other steamer, however, proceeded with so much speed ahead, the bow of the *Storstad*, was twisted over to port, such as is now known'. What did you mean by these last words 'Such as is now known'?—A. The way the bow shows now, that is what I meant by it.

5280. Q. Now, I want you to tell me a little more about this document, Mr. Toftenes, when did you write it up?—A. Some time the same day, in the afternoon I think it would be.

5281. Q. I want it a little more precisely than that—you think it was the same day?—A. It was the same day.

5282. Q. About what time?—A. I am not sure, I couldn't say that now.

5283. Q. Well, I want you to try?—A. It would be about five o'clock in the afternoon or perhaps later, I don't remember the time now.

5284. Q. About five o'clock in the afternoon?—A. Or later.

5285. Q. Where did you write it?—A. Aboard the *Storstad*.

5286. Q. In what part of the *Storstad*?—A. In my own cabin.

5287. Q. Was anybody present when you wrote it?—A. Not then.

5288. Q. What do you mean by the answer: not then? The question is, was anybody present when you wrote it?—A. No.

5289. Q. Then the answer is no?—A. No.

5290. Q. Had you had a talk with anybody before you wrote it up?—A. Yes.

5291. Q. With whom?—A. The captain.

5292. Q. With anybody else?—A. I was talking to several, but I couldn't say now who they all were.

5293. Q. Did you have any talk with Mr. Saxe?—A. Oh, yes, I should say he would have been talking about it, but I can't say now just what we spoke of.

5294. Q. He was your brother officer on the bridge?—A. Yes.

5295. Q. Surely you would have a talk on the bridge?—A. Yes, sure we were talking.

5296. Q. Did he tell you anything about the helm having been put hard-a-port by him?—A. I can't remember that now.

5297. Q. Oh, but think?—A. There is no use thinking; I don't remember it.

5298. Q. Did it occur to you that the helm being put hard-a-port may be an important matter in this case?—A. No, not very.

5299. Q. Not very important?—A. No.

5300. Q. Somewhat important?—A. I don't see there would be much importance to attach to it.

5301. Q. You don't think there is?—A. No.

5302. Q. Now, you had a talk with Saxe and had a talk with the captain?—A. Yes.

5303. Q. Did you make any rough draft on any scraps of paper before this was entered in the book?—A. Yes.

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5304. Q. Where are those scraps of paper?—A. I don't know.

5305. Q. What?—A. I don't know. They may be on board the *Storstad*. I expect they are.

5306. Q. They may be on board the *Storstad*?—A. Yes.

5307. Q. Do you know where they are?—A. No, I didn't save them.

5308. Q. Did it occur to you that it might be desirable to keep those rough bits of paper?—A. No, it did not at the time occur to me, no.

5309. Q. You see there had been a very serious collision?—A. Yes.

5310. Q. A ship had been lost?—A. Yes.

5311. Q. And many lives lost?—A. Yes.

5312. Q. Apparently in the engine room department they kept their rough scraps of paper?—A. I have my scrap-log too.

5313. Q. But where it is now you don't know?—A. It was given over to the Norwegian Consul as far as I know.

5314. Q. Can't you remember?

Mr. HAIGHT.—I can inform my learned friend that Mr. Newcombe has it.

By Mr. Aspinall:

5315. When did you write up the scrap log, Mr. Toftenes?—A. I don't know exactly.

5316. Q. Well where did you write it up?—A. I can't tell you now exactly where I sat writing them up.

5317. Q. I should like to know?—A. I usually write up a scrap log in the chart-room.

5318. Q. But on this occasion I want to know what happened. You usually write it up in the chart-room, you say?—A. Yes.

5319. Q. That is your usual practice?—A. Yes.

5320. Q. Did you follow that practice on this occasion?—A. As far as I remember that scrap log was written up in the chart-room.

5321. Do you mean you did write it up in the chart-room?—A. That log, yes.

5322. Q. Then the answer to my question is yes?—A. Yes.

5323. Q. That is a book which I now see Mr. Newcombe producing?—A. Yes.

5324.—Q. Then in addition to the books I believe there were also some scraps of paper?—A. Yes.

5325. Q. I should like to see the scraps of paper?—A. I am sorry I haven't them, sir.

5326. Q. Well, is this scrap log, which has just been produced by Mr. Newcombe, the same as the ship's log?

LORD MERSEY.—Just a moment, Mr. Aspinall, let me understand. Where is the ship's log itself? I have, at present, an agreed translation of it, but I haven't the log. Is that the ship's log, in that black book that you have in your hand now, the original ship's log.

Mr. ASPINALL.—Yes, my Lord.

LORD MERSEY.—Has it been already put in evidence?

Mr. ASPINALL.—Yes, my Lord.

LORD MERSEY.—And is it marked?

Mr. HAIGHT.—Yes, my Lord, as Exhibit No. 15.

LORD MERSEY.—Now there is, I understand, in addition to the ship's log, a scrap log as well.

Mr. ASPINALL.—Yes, my Lord.

5327. Q. That document you have in your hand is the scrap log, is it not, Mr. Toftenes?—A. Yes.

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LORD MERSEY.—Is there in addition to the black book, which is Exhibit No. 15, also a scrap log in existence?

Mr. HAIGHT.—Yes, my Lord, he has it in his hand.

LORD MERSEY.—Then that is so.

Mr. HAIGHT.—Yes, my Lord.

LORD MERSEY.—Is that in evidence?

Mr. TASCHEREAU.—Not yet, my Lord.

LORD MERSEY.—He has it in his hand, I understand.

Mr. HAIGHT.—Yes, my Lord.

LORD MERSEY.—Then let it be marked.

(The scrap-log is produced and marked as Exhibit No. 17.)

LORD MERSEY.—Is there a translation of that?

Mr. HAIGHT.—No, my Lord, I believe not. We will have it translated and handed up.

By Mr. Aspinall:

5328. Q. Now, Mr. Toftenes, am I right in this that the scrap-log gives you the material which enables you to write up the ship's log?—A. Yes, in usual custom.

5329. Q. Now, if that is right we ought to find in this scrap-log, which I have not had an opportunity of seeing before, the materials which enabled you to write up this somewhat lengthy document with regard to this collision, in the ship's log?—A. No, he wouldn't find that.

By Lord Mersey:

5330. Q. Answer the question, please—the scrap log is kept by you?—A. Yes.

5331. Q. And it is in your handwriting?—A. Some of it.

5332. Q. But it is kept by you?—A. It is kept by the officer on the watch.

5333. Q. And it is from that log that you write up the ship's log?—A. Yes.

5334. Q. Afterwards?—A. Yes.

5335. Q. Now, then, Mr. Aspinall is asking you whether in the ship's log you find anything different from what you find in this scrap log?—A. You will find all the same in the ship's log what you find in the scrap log, but you might not find all in the scrap-log that you find in the ship's log.

5336. Q. Then there are things in the ship's log which do not appear in the scrap log?—A. That is so, my Lord.

By Mr. Aspinall:

5337. Q. And I understand Mr. Toftenes that you agree with me that the ship's log, as a rule, is written up from the information and statements in the scrap log?—A. Yes.

5338. Q. That is the practice on board ship, isn't it?—A. Yes.

5339. Q. Then you make some statement that I wouldn't find it all in the scrap log—I have only just glanced at it, but there looks to me to be very little at all in the scrap log on this occasion?—A. There is nothing specially about the collision.

5340. Nothing specially about the collision?—A. No, there is nothing specially in it about the collision.

Mr. HAIGHT.—Mr. Newcombe has had the book in his possession. We know very little about it.

LORD MERSEY.—May I look at the scrap log?

Mr. ASPINALL.—Certainly, my Lord.

LORD MERSEY.—Show me the page of the scrap log where the entries of this night are made.

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THE WITNESS.—There it is, my Lord.

LORD MERSEY.—Well, go on, I can't make much of it.

MR. ASPINALL.—My Lord, I don't think I have anything more to ask about the log. I have no doubt that some time soon I shall get a translation from Mr. Newcombe or somebody else, and then I will know more about it.

LORD MERSEY.—And you want to examine him later on?

MR. ASPINALL.—Yes, my Lord.

LORD MERSEY.—You haven't a translation of this scrap-log, Mr. Haight?

MR. HAIGHT.—My understanding is, my Lord, that our ship log contains an exact copy of the scrap log, starting with the entries 'at 11.30 we passed Matane light two and a half miles off; at 1.35 a.m. Metis light abreast, four miles off; after passing Metis light we steered courses west three-quarters south, deviation one-half point east, correct magnetic course west one-quarter south, five miles' etc. Now these entries, your Lordship, may perhaps be not so fully entered in the scrap as they appear in the official log.

LORD MERSEY.—I daresay, but it doesn't help very much. Can Toftenes come and stand here on a level with the bench for a few minutes?

THE WITNESS.—Yes, my Lord.

LORD MERSEY.—Well, come and stand here. What is this, now?

(Lord Mersey here interrogated the witness in a conversational tone for a few moments, which questions and answers he instructed the reporter not to take down.)

LORD MERSEY.—Now I want you, Mr. Aspinall, to look on the right hand side of the scrap log, and you see there is a space which is intended for general observations.

MR. ASPINALL.—Yes, my Lord.

LORD MERSEY.—The top of that column, on the right-hand side, is occupied with events that happened on the 28th of May, and it is not until you come to half-way down the column that you come to events on the 29th?

MR. ASPINALL.—Yes, my Lord.

LORD MERSEY.—And then when you get to about that place you see an entry which is timed 2.50?

MR. ASPINALL.—Yes, my Lord.

LORD MERSEY.—And then you will see an entry afterwards which is timed 1.30?

MR. ASPINALL.—Yes, my Lord.

LORD MERSEY.—Well I was asking him how it comes about that there was an entry after 2.50, which is ten minutes to three, and the other entry is timed at 1.30, which is half-past one, that is the subsequent entry?

MR. ASPINALL.—Yes, my Lord.

By Lord Mersey:

5341. Q. And what was your explanation just now?—A. That is a thing that is put in there afterwards.

LORD MERSEY.—His explanation is that the 1.30 entry was put in afterwards. I don't understand it, but I thought you might question him on it.

MR. ASPINALL.—Yes, my Lord.

5342. Q. Now the usual way of writing up a scrap-log is this, that you have the book in the chart-room?—A. Yes.

5343. Q. Lying on the table?—A. Yes.

5344. Q. And you have a pencil there and parallel rules and a chart?—A. Yes.

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5345. Q. And when anything of importance happens you write it down as it happens?—A. I do.

5346. Q. That is the way it is done?—A. Yes, it is.

5347. Q. Well you see his Lordship has pointed this out to me—what appears here is that at 2.50 there is an entry here with regard to the bearing of Father Point?—A. Yes.

5348. Q. You remember that?—A. Yes.

5349. Q. And then the next entry is an entry relating to something which happened at 1.30, that is an hour and twenty minutes or so before that?—A. Yes, that is right.

5350. Q. Now what is that entry at 1.30—I want you to read it?—It states when I first noticed the fog.

5351. Q. Oh, I see, when you noticed the fog?—A. Yes.

5352. Q. Can you translate it for me?—A. Yes, 1.30—

5353. Q. Well what follows there?—A. It started to become hazy over the land—commenced to become hazy over the land. That is about the direct translation.

5354. Q. Now in the ship's log, it is much the same. I will read it to you: 'At 1.30 it commenced to become hazy over the land.' And then the next entry in the ship's log is 'fog came out over the river.'

5355. Q. Shall we find that in the scrap log?—A. I am not sure, I can't tell you sir, I haven't looked.

5356. Q. Will you just look and see?—A. No, that is not there.

Mr. HAIGHT.—May the witness read all the entries there are in the scrap-log right into the record?

LORD MERSEY.—By all means.

By Mr. Haight:

5357. Q. Well, Toftenes, begin your entries at 12 o'clock and read everything you have.

LORD MERSEY.—Well we don't want the barometer readings and everything like that.

Mr. HAIGHT.—Oh no, but begin at 12 o'clock and read the entries.

A. Just the remarks column, '1.35 Metis Point abeam, four miles off; 2.50, Father Point bearing South-west $\frac{1}{4}$ South, about six miles off; 1.30 commenced to be foggy or hazy over the land.'

By Lord Mersey:

5358. Q. How did you come to write into that scrap-log an entry of something that had occurred at half-past one after you had already written in the log something that happened at ten minutes to three? How did that come about?—A. I am not sure. I could not say how it came about.

5359. Q. Is it true that the entry under one-thirty was written in after the collision?—A. Yes, all that has been written in—well not all, but some of that has been written in after.

5360. Q. The entry under 2.50 was not written in after, was it?—A. No, that was before.

5361. Q. That was written in about ten minutes before the collision?—A. Yes, about that.

5362. Q. But the 1.30 entry was written in after the collision?—A. Yes, that is so.

By Mr. Aspinall:

5363. Q. Is there any more?—A. Yes, there is.

5364. Q. Read it please.—A. About 2.50 Father Point light was hidden in fog. That is all.

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5365. Q. Was that written after the collision?—A. Yes, that was written after.

5366. Q. Why didn't you write those things up in the scrap-log as they occurred that night?

WITNESS.—About the collision?

5367. Q. No, not about the collision..... 2.50 is before there was a collision?—A. Yes.

5368. Q. And I suppose at 2.50 you thought there was no risk of collision?—A. I did not.

5369. Q. It would have been quite easy for you to have walked into the chart-room and written it down?—A. Yes, but the things had very little significance then.

By Lord Mersey:

5370. Q. But this is getting a little complicated—are there two entries in the scrap-log marked 2.50?—A. Yes.

5371. Q. Well one of them, the first of them, was entered before the collision?—A. Yes.

5372. Q. And the second one is marked the same time?—A. About 2.50 the second was.

5373. Q. Well the second is entered as about 2.50, but it is entered after the collision?—A. Yes.

5374. Q. And was put into your book after the collision?—A. Yes

By Mr. Aspinall:

5375. Q. When you made the first 2.50 entry you went into the chart-room for the purpose of doing it before the collision had happened?—A. I didn't put it down That was the third mate.

5376. Q. Well somebody went in and did it?—A. Yes.

5377. Q. Is that all that we can find in the scrap log relating to this matter?—A. That is all—well I don't know. No, that is all.

By Lord Mersey:

5378. Q. The remainder is of no importance?—A. No, sir

By Mr. Aspinall:

5379. Q. When you made those entries in the scrap log after the collision had happened, at what time of the day did you make these entries?—A. About eight or nine o'clock in the morning.

5380. Q. Are you sure?—A. No, I am not sure of the time; about that.

5381. Q. Were they made about the same time that you wrote up the ship's log?—A. No, before that time.

5382. Q. Did you have a talk with the captain?—A. Oh, I must have been speaking with him before that, but what was said or when that happened I couldn't say anything about.

5383. Q. Now what was the reason why you put in these two entries of 1.30 and 2.50 after the collision had happened?—A. At times like that you are always liable to forget, and I noted them down. I thought they might be of importance

5384. Q. To help your memory afterwards?—A. Yes.

By Mr. Haight:

5385. Q. Please open at your scrap entries again?—A. Yes.

5386. Q. Do they show the courses that you were steering up to the time of the collision?—A. They do.

5387. Q. I want you please to read from your scrap log your courses, and also to read all the other entries that you have been talking about which you made before

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the collision so that we will have it consecutively. Read nothing you made after the collision.

WITNESS.—How far back do you want?

5388. Q. Give your courses first.

WITNESS.—From Metis Point?

COUNSEL.—Yes, from Metis Point.—A. West one-quarter south magnetic.

By Lord Mersey:

5389. Q. At what point of time are you starting?—A. 1.35.

LORD MERSEY.—But you know there is something before that, there is 1.30

Mr. HAIGHT.—I am asking him to read the entries he made before the collision occurred. That 1.30 entry was made afterwards.

LORD MERSEY.—The thing is complicated in this way that he made certain entries before the collision occurred.

Mr. HAIGHT.—Yes, my Lord.

LORD MERSEY.—And these entries were of course timed before the collision occurred, but he also made at all events, one entry and probably two after the entry occurred.

Mr. HAIGHT.—Quite so.

LORD MERSEY.—Which are also timed before the collision occurred?

Mr. HAIGHT.—Yes, my Lord, and that is why I was asking him to read first only the entries made before the collision occurred, so there would be no doubt about which they were.

5390. Q. Starting at Metis Point, give me your courses and all other entries you have there—is there an entry there 'Metis Point abeam'?—A. Yes, 1.35, Metis abeam, four miles off.

5391. Q. Are your courses given from Metis?—A. Yes.

5392. Q. Read them please?—A. West $\frac{1}{4}$ south magnetic, six miles.

5393. Q. Are you reading me the whole course, or does your record show the steered course and the deviation?—A. Yes.

5394. Q. Now look at me—I want everything in the scrap—I don't want you to leave out anything after 1.35. Don't edit it, but translate it?—A. It is 'west three-quarters south, six degrees deviation, west one-quarter south, magnetic, six miles.'

5395. Q. Right—now the next?—A. Then west by south and the same deviation. that is west half south, five miles. And west by south, the same deviation, west by south, no distance.

5396. Q. No distance?—A. No, the distance is uncertain.

5397. Q. Go on, there are some other entries that you made before the collision?—A. You mean the remarks here, what I read before.

5398. Q. Everything you wrote before the collision on your watch?—A. That is 1.35, Metis Point abeam, four miles.

5399. Q. You have read us that?—A. Yes.

5400. Q. And then?—A. Father Point, south-west $\frac{1}{4}$ south, six miles off. Then 1.30, commenced to be hazy over the land.

5401. Q. Now wait, I want you to read only the entries you wrote before the collision.

By Lord Mersey:

5402. Q. You know you didn't make that entry before the collision occurred?—A. No, your Lordship, I did not.

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By Mr. Haight:

5403. Q. Now, will you please read over the entries you made in the scrap log after the collision occurred?—A. Well, that comes up to the next day. Will I read it all?

5404. Q. No, during your watch?—A. Oh, during my watch, that is '1.30 it commenced to be hazy over the land. About two o'clock Father Point was sighted; and about two-fifty the same was hid in a fog.'

5405. Q. What was hidden?—A. Father Point light.

5406. Q. Now is that all you wrote after the collision?—A. That is all.

LORD MERSEY.—What about the two-fifty, the second two-fifty—A. That is what I read last time, my Lord.

Mr. HAIGHT.—He says about 2.50 Father Point light was hidden.

LORD MERSEY.—But that was written in the scrap log after the collision?

Mr. HAIGHT.—Yes, my Lord.

5407. Q. Have you read now every entry that the scrap log contains which you wrote up after the collision?—A. Yes.

5408. Q. And what you wrote after the collision begins with the entry: '1.30 commenced to be hazy over the land'?—A. It does, sir.

By Lord Mersey:

5409. Q. I am sorry to have to repeat this so often, but is it true that after the collision took place you entered in your scrap log three notes?—A. I did, sir.

5410. Q. Now let me see what I understand these three notes to have been—'Two o'clock saw Father Point light'—you put that in the log after the collision?—A. Yes.

5411. Q. And '1.30 commenced to be hazy over the land, and foggy'?—A. Yes.

5412. Q. You put that entry in your scrap book after the collision?—A. I did.

5413. Q. And then '2.50, lights on the land were entirely hidden'—?—A. My scrap log says: 'Father Point light was hidden.'

5414. Q. Very well, the lights at Father Point were entirely hidden. You wrote that in the log after the collision—A. I did.

5415. Q. Although all these hours, nearly two o'clock, 1.30, and 2.50 were hours before the collision?—A. Yes.

By Sir Adolphe Routhier:

5416. Q. Were these entries made by memory?—A. By memory.

By Lord Mersey:

5417. Q. When did you make these three entries in your scrap log? Did you make them all at one time?—A. I do not remember that now; I believe I did.

5418. Q. What time was it, do you think, at which you made these entries?—A. It would be some time in the forenoon of the same day.

5419. Q. On the 29th of May?—A. The 29th.

5420. Q. Where were you when you made them?—A. In the chart room.

5421. Q. Who was with you?—A. I could not say.

5422. Q. Did you make them after you had talked the matter over with the captain?—A. No, I do not think we did talk all of it over then.

5423. Q. Did you talk any of it over?—A. Yes, we would be sure to do that.

5424. Q. And you talked something over when you were making these entries in the scrap log?—A. That is a thing I would not say for certain; I do not believe I did.

5425. Q. Why did you interpolate in this scrap book these three entries we have spoken about?—A. Because it was times that I thought might be of importance later.

5426. Q. Because it was what?—A. It was entries and times that I thought might be of importance later and I would not forget them.

5427. Q. When?—A. Concerning the collision.

5428. Q. When there was an enquiry into the collision?—A. Yes, sir.

5429. Q. You thought you had better have these entries in because they might be important for the purposes of the inquiry?—A.—

By Sir Adolphe Routhier:

5430. Q. Where were you in the river when you made these entries?—A. Between Father Point and Quebec; the exact spot I could not say.

5431. Q. Between Father Point and Quebec?—A. Yes.

5432. Q. Where?—A. I could not tell the exact point. We would be somewhere around Red Island.

5433. Q. When did you arrive in Quebec?—A. I do not remember that either.

5434. Q. Is it mentioned in your log?—A. It will be mentioned in the log; about 1.30 on the afternoon of the 30th.

By Mr. Haight:

5435. Q. When you had made the additional entries in the scrap log you had left Father Point an hour or two before?—A. I cannot tell you the exact time but we would have left Father Point.

5436. Q. You had not gone ashore at Father Point?—A. No.

5437. Q. And nobody came out from the shore to your steamer at Father Point?—A. No, I do not believe any one. The *Lady Evelyn* was alongside but I do not believe that anybody was aboard.

5438. Q. When you wrote in your official deck log were you stopped?—A. No, we were between Father Point and Quebec.

5439. Q. In other words, the entries in the scrap and the entries in the deck log later were all made before you reached Quebec?—A. Yes.

5440. Q. You stated that you wrote out the account of the accident which you subsequently put in the deck log on scraps of paper first?—A. Yes.

5441. Q. Why did you write it out on pieces of paper before you put it into the log?—A. I am not very much used to writing a story so I wanted to see if it looked like something before I wrote it up.

LORD MERSEY.—That is not an uncommon thing to do.

Mr. HAIGHT.—I do not think it is among sailors.

LORD MERSEY.—It is not at all unusual to make memoranda on bits of paper.

Mr. HAIGHT.—Not at all.

5443. Q. (To witness:) When I was aboard your steamer did you then have the original memoranda?—A. No, I do not remember; I do not think I had.

Mr. HAIGHT.—My Lord, if you do not mind, I saw something—I cannot tell what—but he had something. If the court has no objection I will find out what it was. He did show me something. I thought then that it was the original memoranda and if so I think it might be still on board the ship, and the witness can go down to Montreal and get it. I would like to do that if the court will allow me.

LORD MERSEY.—What you could do would be to telegraph or telephone.

Mr. HAIGHT.—They are in the mate's room.

5444. Q. (To witness:) You had some sheets of paper when I was aboard your steamer?—A. I had some notes.

5445. Q. What were those sheets of paper?—A. They were some of the notes.

5446. Q. You have not destroyed those notes?—A. No, I do not believe I have; they will still be there.

5447. Q. I will ask you to take the afternoon train, go to Montreal, try to get back here to-morrow and see if you cannot find those scraps of paper, if His Lordship will permit it.

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LORD MERSEY.—You do not require my permission.

Mr. HAIGHT.—Your Lordship would not allow me to send him back to the ship two days ago.

LORD MERSEY.—I wanted him here then.

Mr. HAIGHT.—I was afraid that you might want him again this afternoon.

LORD MERSEY.—I do not know that I shall.

Mr. HAIGHT.—If he will not be needed I think he could get down and back. Do you object to this, Mr. Aspinall?

Mr. ASPINALL.—No.

LORD MERSEY.—When can he be back here?

Mr. HAIGHT.—He can probably get the 1.30 train to Montreal, be in Montreal at 6.30, go to his steamer, get the midnight sleeper back and be here in the morning.

LORD MERSEY.—I see no objection.

Mr. HAIGHT.—I will ask one or two more questions.

LORD MERSEY.—You must not make him miss his train.

Mr. HAIGHT.—No, my Lord, I will see that he does not miss it.

5448. (Q. (To witness:)) Mr. Aspinall has referred to the entries in your scrap log that at 1.30 it commenced to be hazy over the land and at 2.50 Father Point was hidden; how soon did the fog work out to your ship after Father Point was shut out? A. It was about five minutes afterwards.

5449. Q. After the Father Point light disappeared was your ship then in the fog? A. No.

5450. Q. When did you begin to blow your whistles in reference to the fog?—A. When the fog hid the lights of the steamer I saw.

5451. Q. When was it that you first slowed your engines in reference to the fog? A. It was at the same time—when the fog hid the other steamer.

5452. Q. Now, get your train, hunt for these scraps—every scrap you have written—get them, get to night's train and be here in the morning.—A. Yes.

LORD MERSEY.—You have finished your evidence now, Mr. Haight?

Mr. HAIGHT.—Yes, my Lord, barring the expert evidence.

LORD MERSEY.—Mr. Aspinall, you have finished your evidence with the exception of your expert evidence?

Mr. ASPINALL.—Yes.

LORD MERSEY.—I understand that Mr. Haight also has expert evidence?

Mr. HAIGHT.—Yes.

LORD MERSEY.—There is something I rather want you to do, Mr. Aspinall,—I do not know whether you can do it in agreement with Mr. Haight—that is to mark the courses of the two vessels according to the evidence as to their bearings. I do not know whether I express myself technically.

Mr. ASPINALL.—Yes, sir, I think so.

LORD MERSEY.—But you see what I want?

Mr. ASPINALL.—Yes.

LORD MERSEY.—I want to get the directions in which these two vessels were moving in order to show how far they were clearing each other.

Mr. ASPINALL.—Yes.

LORD MERSEY.—And I should like that done on a chart and done by somebody who is capable of doing it. I do not know whether I have explained what I want.

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Mr. ASPINALL.—Yes, my Lord, I think I understand. Mr. Haight, will you try and follow this? I think that what is in His Lordship's mind is this: His Lordship has asked if we can do this in conjunction and perhaps we may be able to do it in conjunction. If we cannot we must try and do it apart, but what His Lordship has asked is this——

LORD MERSEY.—You will do that?

Mr. ASPINALL.—Yes.

Mr. HAIGHT.—I think that before we try to plot the *Empress's* course, we will need more information than the *Empress* witnesses have yet given us. There are differences in the times that are difficult to explain. We find the wireless man telling us that by exact time it was 1.45 and Capt. Kendall says that by his time it was 1.55. We have no precise statement as to exactly how many minutes she ran on her first course of N 47 E, and we have really no definite statement as to speed.

LORD MERSEY.—Is there not a definite statement on either of these two points?

Mr. HAIGHT.—You remember that the second mate in seniority said that he thought they ran about 18 minutes on the N 47 E course and then three or four minutes N 72 E. I thought they would have their throttle open then, but subsequently I found that they had not yet got their throttle open.

LORD MERSEY.—Their what?

Mr. HAIGHT.—Their throttle was not yet wide open. The chief engineer, or the engineer on the watch, states that he had not acquired speed enough to justify the opening of the throttle.

LORD MERSEY.—I have no doubt he did say so, but I do not recall it.

Mr. HAIGHT.—I thought that possibly we could put back Capt. Kendall and the engineer and have a little more accurate information as to the differences of time from the deck log showing that the clocks were changed at the same time, the change not having been explained. We have tried quite hard to plot their course from the evidence now on record and it is really largely guess work—it cannot be done accurately.

Chief Justice MCLEOD.—If you get the time when the *Empress* left Father Point, if you know the course she was heading and if you have it stated practically where the collision occurred, why can it not be marked?

Mr. HAIGHT.—Capt. Kendall has run his line only a certain distance.

Chief Justice MCLEOD.—If you were told where the line is that would still be the course and it can be marked.

Mr. HAIGHT.—But we do not know how far to run it.

LORD MERSEY.—I do not think there is any difficulty in marking the course because we are told what the course was.

Mr. HAIGHT.—But there was a change in it, my Lord.

LORD MERSEY.—There was only one change.

Mr. HAIGHT.—It makes a great difference where that change took place.

LORD MERSEY.—No doubt it does. If, as you say, you have not got his time right or the speed at which the vessels were going, that, of course, might make a difference. Well, I have indicated what the information is I would like to have. If it cannot be given to us I will tell you what we shall do; we shall do without it.

Mr. HAIGHT.—We will do what we can to give it to you.

At 1.10 the Commission rose.

SESSIONAL PAPER No. 21b

The Commission resumed at 3.30 o'clock.

LORD MERSEY.—There is some witness, I understand, Mr. Newcombe, that you desire to call at once so that he may get away.

MR. NEWCOMBE.—Yes, my Lord, there are two in that class.

MICHEL GAGNON, master, Dominion Government steamer *Druid*, sworn.

By Mr. Newcombe:

5453. Q. You are the master of the Dominion Government steamer *Druid*?—A. Yes, sir.

5454. Q. Are you in charge of the placing of buoys and aids to navigation in the St. Lawrence?—A. Yes, sir.

5455. Q. Have you buoyed the place of the wreck of the *Empress of Ireland*?—A. Yes, sir.

5456. Q. Will you look at this chart and state whether you have marked the position there according to cross bearings and sextant angles?—A. Yes, sir, that is very, very near the place, anyway, if it is not the place.

5457. Q. How did you ascertain where the wreck was lying?—A. With sextant angles.

5458. Q. I know, but in the first place you had to find out where the ship was lying?—A. I didn't discover that myself; the survey boat was there before me.

5459. Q. The survey boat was there taking the soundings?—A. Yes, sir.

5460. Q. And they gave you the position?—A. Gave me the position of the ship, yes.

5461. Q. And you put down a buoy there?—A. Yes, sir.

5462. Q. Now, where is that buoy? It is right on top of the wreck, or alongside?—A. It is about 100 feet northeast of the wreck.

5463. Q. One hundred feet northeast of the wreck?—A. Yes.

5464. Q. And that position is indicated by the dot with the circle round it?—A. Yes, sir, that is the position of the buoy. The ship should be a little farther in; about 100 feet farther in.

5465. Q. And these are your sextant angles, describing the location of that buoy indicated on chart?—A. Yes, sir. (Chart filed as Exhibit 'E')

5466. Q. Will you state what they are, so that we can have them taken down in the evidence?—A. St. Flavie church, zero, zero; St. Luce church, 72°, 45'; Father Point lighthouse, 32°, 50'. If you want the bearings I can give you them, too; I have them here.

5467. Q. The cross bearings?—A. Yes, sir.

5468. Q. You had better give them.—A. Father Point lighthouse, south 54° west 7 miles; St. Luce church, south 21° west 4 miles.

5469. Q. Do you know how much water there is there?—A. There are 22 fathoms alongside the ship; where the buoy is anchored it is 27 fathoms.

5470. Q. Have you any information as to how the ship is lying?—A. No sir.

LORD MERSEY.—Is this chart marked 'E' an American chart?

MR. NEWCOMBE.—It is one of Bayfield's charts; it is a British Admiralty chart.

LORD MERSEY.—How does the point agree with the position marked by the captain of the *Storstad* and by Captain Kendall? Is it practically the same?

MR. NEWCOMBE.—They are different charts, my Lord, upon different scales.

LORD MERSEY.—Then you are introducing a great deal of confusion. It is extremely troublesome to have different persons marking different charts. Is it of any consequence in this case where the vessel is now lying except to conform the statements of Captain Kendall and the master of the *Storstad* as to where the acci-

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dent took place? I suppose that the vessel is lying just about the point where the accident took place.

MR. NEWCOMBE.—About the point. I do not myself think that it is of very great consequence to establish precisely where she is lying, but I understood it was desirable that we should give the evidence.

CHIEF JUSTICE McLEOD.—There does not appear to be a great deal of difference in that respect between Captain Kendall and Captain Andersen.

MR. NEWCOMBE.—No.

MR. HAIGHT.—I should like if possible to have the position laid off on either Captain Kendall's chart or the mate of the *Storstad's* chart.

By Mr. Newcombe:

5471. Q. This chart which you have produced with the position of the *Empress* marked upon it is not the same chart as that used by Captain Kendall and Captain Andersen in laying down the position of the wreck as they suppose it to be?
A. No, sir.

LORD MERSEY.—Did not Captain Kendall and the captain of the *Storstad* use the same chart?

MR. HAIGHT.—No, my Lord, they have drawn their diagrams, as I understand it, on different charts.

LORD MERSEY.—Then am I to understand that the position has been indicated upon three different charts?

MR. HAIGHT.—The same in form; physically they are different.

LORD MERSEY.—They are the same prints?

MR. HAIGHT.—Precisely.

MR. NEWCOMBE.—(To witness): Transfer your position as marked on the chart which you produce to this chart 'C'.

LORD MERSEY.—Let him retire into some other room and when he has done it let him come back again.

Witness retired.

MR. NEWCOMBE.—We have a gentleman here from the Dominion Coal Company.

LORD MERSEY.—What is he to tell us?

MR. NEWCOMBE.—I understand that my learned friends of the Canadian Pacific Railway Company wish to ask him a few questions with regard to the terms of employment of the captain and officers.

LORD MERSEY.—I do not want to ask anything.

MR. NEWCOMBE.—I do not want to ask anything.

LORD MERSEY.—Do you, Mr. Aspinall?

MR. MEREDITH.—The only question I would ask him would be as to whether the officers on the *Storstad* received anything in the way of gratuities.

LORD MERSEY.—We have been told that they did not.

MR. MEREDITH.—I should like to ask Mr. McIsaac, who is the head of the Dominion Coal Company so far as shipping is concerned, whether that is correct or not. That is the only question I wish to put to him.

LORD MERSEY.—The persons who would be interested in that would be the ship owners. Of course the Dominion Coal Company would also be interested in it; if you think it is of any importance, let the gentleman come to the box.

MR. MEREDITH.—I think it is important; I wish to ask him only one or two questions.

GAGNON.

SESSIONAL PAPER No. 21b

J. R. McISAAC, General Traffic Manager, Dominion Coal Company, sworn.

By Lord Mersey:

5472. Q. What position do you occupy in connection with the Dominion Coal Company?—A. I am general traffic manager.

5473. Q. Does the company pay any bonus or gratuity to the captain or any of the men on their steamers for making a quick voyage?—A. No, my Lord, but I think I should explain something, if you will allow me. Our trip report instructions to captains, Rule 13 reads:

'13. When a vessel sustains damage at any berth, except at company's coal piers Sydney or Louisburg, or at Wellington Basin, Windmill Point, or Hochelaga Towers, Montreal, or at the company's discharging plants, Quebec, Three Rivers and St. Johns, captains are requested to either have party at fault repair damage at once, if it can be done without delaying the vessel, or to agree in writing that he is responsible, and will pay for damage and state in writing what the damage is and what it will cost in money to make the same good (captain will see price is correct), and send statement to general traffic manager, so he may collect money from party at fault. Captains should protect company's interest in damage matters as against outside stevedores and companies with the same zeal as they display in protecting their owner's. To captains who safeguard its interests in this and other matters, the company pays a gratuity.'

This is a universal practice in connection with chartered boats.

LORD MERSEY.—I see another provision here, as follows:

'Captains are reminded of the importance of making every moment count, and the necessity for being energetic in pushing their work along. If any delays occur, through the fault of companies, officers or employees, do not hesitate to report same promptly to superintendent of shipping. When requested, such reports will be treated confidentially.'

Then another:

'Please show below all delays on the trip, stating where they occurred, duration, cause, whether for pilot, customs, tug, doctors, bills of lading, clearance papers, cargo, cars, lighters, stevedores, orders, storm, fog, darkness, tide, etc., and who, if any person, is at fault. State whether on outward or homeward voyage or at loading or discharging port.'

Have you anything more to say?—A. No, my Lord.

By Mr. Meredith:

5474. Q. In Rule 13 of the Instructions to Captains which you have read, Mr. McIsaac, which speaks of the gratuity, is that gratuity worked out on the tonnage that is carried by each ship?—A. It is on so much per ton, yes.

5475. Q. Carried by each ship?—A. Yes.

5476. Q. So that the greater the number of tons carried on a ship by any one captain, the greater his gratuity, if gratuity he gets.—A. The slow steamers get the same rate as the fast boats.

5477. Q. The slow steamers get the same rate?—A. Yes, the same rate.

5478. Q. The greater the tonnage carried by any steamer, the greater the gratuity, if you allow any gratuity?—A. It depends on the time the steamer is on charter. Some boats are only on charter for one trip, some others for a month and some others for the season.

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5479. Q. I do not know that we understand each other. Supposing you take two ships that are on charter for one month. The captain of the steamer that carries and lands the greater amount of tonnage during the month will get the greater gratuity, if you give him any at all; isn't that so?—A. Yes, the more coal, there is no doubt, that is carried in the season, or in the period, the more the gratuity amounts to.

5480. Q. If that gratuity is allowed, who does it go to? What I mean is; does it go alone to the captain and certain of the officers and certain of the engineers?—A. It is given to the captain and one of the officers and one of the engineers.

5481. Q. And Captain Andersen, who has been examined in this case, was the master of the *Storstad*.—Had he before this made any trips for your Company from Sydney to Montreal?—A. Yes, sir.

5482. Q. Was he furnished one of these papers; they call it here 'Captain's Trip Report,' and, on the back, 'Instructions to Captains.' Did he, on his return from Montreal to Sydney, fill in this captain's report with these instructions on the back?—A. Yes.

5483. Q. Have you got that with you?—A. I have, yes, sir.

Mr. MEREDITH.—May I be allowed to file either the blank which has been spoken of, or this report?

LORD MERSEY.—Of course you shall.

The WITNESS.—I prepared to take it with me, but evidently I have left it in the hotel.

By Lord Mersey:

5484. Q. When the captain got to Montreal on this particular trip, did he fill up one of these forms?—A. He made out one of these forms.

5485. Q. Has it anything in it relating to the damage?—A. It was the previous trip's report.

5486. Q. I am asking you about this particular trip. Did he ever fill out one of these forms with reference to this trip that we are enquiring about?—A. No, my Lord.

5487. Q. Why didn't he, because she arrived, you know, with her cargo.—A. The trip report is made after the steamer arrives at the mines.

5488. Q. At Montreal?—A. The voyage is completed at the mines at Sydney; the voyage begins at Sydney and ends at Sydney.

5489. Q. Oh, I see; the trip consists of going from Sydney to Montreal and then going back to Sydney.—A. Yes, my Lord.

5490. Q. This ship on this voyage never did go back to Sydney?—A. No, my Lord.

5491. Q. She is still lying at Montreal, and therefore the opportunity of making the return did not arise?—A. Exactly.

5492. Q. Now, then, you have some returns, as I understand, of previous voyages?—A. Yes, my Lord.

5493. Q. But you have not them with you?—A. No, I intended to bring it but I left it.

5494. Q. How long would it take you to get them?—A. About five minutes.

5495. Q. Then will you occupy the next five minutes in finding them?

Witness retired.

McISAAC.

SESSIONAL PAPER No. 21b

CAPTAIN POULIOT, of the D.G.S. *Lady Evelyn*, sworn.

Examined by Mr. Newcombe:

5496. Q. You are the captain of the Canadian Government steamer, *Lady Evelyn*?—A. Yes, sir.

5497. Q. You went to the assistance of the *Empress* on the night of the 29th of May?—A. Yes, sir.

5498. Q. That would be Friday morning, May 29th?—A. Yes, sir.

5499. Q. You were called by telephone and informed by the wireless operator at Father Point that the *Empress* was asking for assistance, sinking?—A. Yes, sir.

5500. Q. The position was given 20 miles from Father Point; couldn't specify whether east or west—that is according to your statement?—A. Yes.

5501. Q. Now will you tell at what time you received that message?—A. When I left the telephone it was 2.12.

5502. Q. 2.12 ship's time?—A. Ship's time.

5503. Q. Would that be right Montreal time?—A. Well, we generally keep eastern standard time there.

5504. Q. Then what did you do when you got this message at the telephone?—A. I gave orders to call up every man of the crew.

5505. Q. Where was the ship then?—A. Lying at Rimouski wharf.

5506. Q. You ordered all hands to be called?—A. Yes.

5507. Q. And the firemen?—A. Every fireman to be sent on duty.

5508. Q. Chief engineer?—A. The chief engineer was informed by me of what had happened to the *Empress*.

5509. Q. Did you get up steam as quickly as possible?—A. We did, sir.

5510. Q. You received another message at 2.25?—A. At 2.25 they gave me the position of the *Empress*; that is, they told me it was east of Father Point.

5511. Q. That message came from the captain of the *Eureka*?—A. Yes, sir.

5512. Q. That the *Empress* was east of Father Point, and also that the *Empress* did not answer the wireless calls?—A. Yes, sir.

5513. Q. What time did you get away?—A. We left at 2.45.

5514. Q. At 2.45 you left Rimouski wharf; at what time did you arrive at the place of disaster?—A. About 3.45.

5515. Q. What did you find when you got there?—A. We could see nothing of the *Empress*.

5516. Q. The *Empress* was gone?—A. The *Empress* was gone.

5517. Q. Was it clear weather then?—A. It was clear weather, yes, sir.

5518. Q. You saw the *Storstad*?—A. We saw the *Storstad*, and lots of wreckage on the water; life boats and all kinds of wreckage and lots of floating bodies.

5519. Q. Were the life boats out then looking for the survivors?—A. There were many boats out then.

5520. Q. Was the *Eureka* there then?—A. The *Eureka* was there, yes sir; she had arrived a few minutes before.

5521. Q. Her boats were out?—A. Her boats were out.

5522. Q. And the *Storstad's* boats?—A. And the *Storstad's* boats were out.

5523. Q. Did you put out your boats?—A. Our boats were out immediately after we arrived; they were ready before our arrival.

5524. Q. How many boats?—A. Two boats.

5525. Q. The boats from the *Empress* and the *Storstad* came alongside of your ship and you took on board some of the survivors?—A. Four life boats came alongside of our boat, boats from the *Storstad* and the *Empress*.

POULIOT.

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5526. Q. Did you take on board the passengers and the crew?—A. Well, we took one crew on board, five men from one of the *Empress* boats.

5527. Q. Do you mean to say that these were the only survivors you took on board?—A. No.

5528. Q. Just tell me what you did do, please?—A. That is, from the life boat; we took five men from the life boat. After that I got a request from the *Storstad* to go and take away passengers, that is, the survivors that they had picked up.

5529. Q. On the *Storstad*?—A. On the *Storstad*.

5530. Q. But from the boats, did you only take five?—A. From the boats, only five.

5531. Q. Then you took the passengers off the *Storstad*, the survivors who had been rescued?—A. Yes, sir.

5532. Q. You also with your boats picked up some of the bodies there?—A. Many bodies were picked up, yes.

5533. Q. How many did you take off the *Storstad*?—A. The number was given to me by the pilot of the *Storstad*, he counted them. The report I gave was 237, but I have been informed from that pilot since that that the real number was 337.

5535. Q. 337?—A. Yes, and with the Captain, 338.

5536. Q. Did you provide clothing and medicines and attendance for these people?—A. We did provide everything that we could give on board, medicine and liniment—

5537. Q. How long did you stay there? At what time did you leave the scene of the wreck?—A. We left at a quarter past five.

5538. Q. And went to Rimouski to land the survivors?—A. Land the survivors.

5539. Q. You left two boats among the wreckage to pick up the bodies?—A. We left two of our boats there to pick up the bodies.

5540. Q. At what time did you arrive at Rimouski?—A. Six o'clock, I think.

5541. Q. Then did you go back again?—A. We went back again, yes, sir.

5541½. Q. Leaving there at a quarter to seven?—A. Can I look at my notes?

LORD MERSEY.—It doesn't matter whether it was quarter to seven or quarter after seven.

By Mr. Newcombe:

5542. Q. Then you went back to the wreck?—A. Yes, sir.

5542½. Q. What did you do when you went back to the wreck?—A. We picked up bodies.

5543. Q. And you went back again at five minutes past eleven, according to your statement, to Rimouski?—A. Yes, sir.

5544. Q. At 12.45 you arrived at Rimouski wharf and landed 12½ bodies?—A. Yes, sir.

5545. Q. At 3.55 p.m. you left Rimouski wharf?—A. Yes, sir.

5546. Q. 4.47, back to the wreckage, cruised about looking for more bodies; turned over all capsized boats you could see, as well as rafts, found two more bodies in a lifeboat?—A. Yes, sir.

5547. Q. 7.25 p.m., left the place of the wreck, two bodies in tow, going dead slow; 9.28 arrived at Rimouski wharf, landed the two bodies and secured the life boats?—A. Yes, sir.

LORD MERSEY.—Any questions, Mr. Haight?

MR. HAIGHT.—No, my Lord.

LORD MERSEY.—Mr. Gibsone, you might like to ask something?

MR. GIBSON.—No, my Lord, I am quite satisfied.

Witness discharged.

POULIOT.

SESSIONAL PAPER No. 21b

J. R. McISAAC, Dominion Coal Company, recalled.

(Captain's Report produced and filed as Exhibit "P.")

LORD MERSEY.—Do you think this will be useful?

Mr. MEREDITH.—I think perhaps it may in this way: The first mate stated that he didn't think the captain got any gratuity.

Chief Justice McLEOD.—Mr. McIsaac says that they can under certain circumstances.

Mr. MEREDITH.—Under certain circumstances. I produce this for what it may be worth; that will be a matter for argument later. It shows an incentive to go fast, at all events.

By Mr. Haight:

5548. Q. As a matter of fact, Mr. McIsaac, had Captain Andersen ever received a gratuity from your company before this accident?—A. Not from the Dominion Coal Company, no.

5549. Q. He was on charter to the Dominion Coal Company?—A. He was on charter to the Dominion Iron and Steel Company.

5550. Q. He had been running on several trips for the coal company?—A. Dominion Coal Company, yes.

5551. Q. Any gratuity that he would have received for his coal carriage, you would have eventually paid?—A. That is right.

5552. Q. As a matter of fact, up to the time of the accident, had he run long enough to call for any payment of a gratuity?—A. We don't pay the gratuity until the end of the season, or when the steamer is going off the charter.

5553. Q. Is the payment of the gratuity based upon the amount of coal carried on any voyage, or do I understand that it is on the total dead weight carried?—A. On the total carried for the time the gratuity is paid for.

5554. Q. Do you happen to know what the dead weight capacity of the *Storstad* is?—A. We pay on her dead weight capacity of 10,800 tons.

5555. Q. Would she in your judgment be overloaded if she carried 10,400 tons?—A. No, sir.

LORD MERSEY.—Is there any suggestion that she was overloaded?

Mr. HAIGHT.—I do not know, but my learned friends have emphasized the fact that they pay gratuity on what is carried.

LORD MERSEY.—I do not imagine that there was any suggestion that she was overloaded.

Mr. HAIGHT.—They evidently thought the gratuity was an inducement to overload.

Mr. MEREDITH.—No, it is an inducement to greater speed.

Mr. HAIGHT.—They have suggested overloading once before.

LORD MERSEY.—I do not remember it; (to Mr. Aspinall): Did you suggest it?

Mr. ASPINALL.—No, my Lord.

Mr. HAIGHT.—On the occasion of the examination of a previous witness, it was suggested that the boat, being overloaded, was sluggish, and would not steer properly.

Chief Justice McLEOD.—I understood not that she was overloaded but that she was heavily loaded.

LORD MERSEY.—That she was carrying a full cargo.

By Mr. Haight:

5556. Q. Is it true, Mr. McIsaac, that under your form of charter the requirement for the payment of hire ceases as soon as the vessel is damaged or unable to continue in the service?—A. That is right; 12 hours or more.

Witness discharged.

MICHEL GAGNON, recalled.

By Mr. Newcombe:

5557. Q. Now Captain Gagnon, have you marked the charts?—A. I have marked them, sir, but all the points which have been used for bearings are not on this chart. I haven't got St. Luce church and St. Flavie church is not available—

LORD MERSEY.—I do not know what this gentleman is whispering in your ear.

MR. NEWCOMBE.—He is saying that the points from which he took his angles are not shown upon the charts to which he has been asked to transfer the position.

LORD MERSEY.—The New York chart is no good to him?

MR. NEWCOMBE.—He has done the best he can.

Chief Justice McLEOD.—We want it right or not at all.

LORD MERSEY.—Are you going to suggest, Mr. Haight, or is anybody going to suggest that the steamer *Empress* did not go down in the water perpendicularly?

MR. HAIGHT.—My belief is that she went down within a comparatively short distance to the northward of where she was struck.

LORD MERSEY.—And that she went straight down; she did not steam ahead while she was under water?

MR. HAIGHT.—I think not, my Lord.

LORD MERSEY.—Then what does it matter?

MR. HAIGHT.—As I view it, the place of the wreck is approximately the place of the collision.

LORD MERSEY.—No doubt it is, and that is what I am saying to you. The ship went down perpendicularly at the point where she foundered.

MR. HAIGHT.—Yes, my Lord.

LORD MERSEY.—If we could ascertain exactly where she is lying now, we should know exactly where she foundered.

MR. HAIGHT.—I think we should have to go a little distance back, because in my belief she was moving when the collision occurred.

LORD MERSEY.—Captain Kendall and Captain Andersen each marked the spot, and the two pretty nearly agree. I was told that the difference was so slight that it was of no consequence in this case.

MR. HAIGHT.—I think that is an error, my Lord. As I understand Captain Kendall's diagram, he places the place of collision at least a mile to the northward of the wreck.

LORD MERSEY.—Suppose he does; what then? Is it your case that you have placed a spot upon the chart exactly over the place where she is now lying?

MR. HAIGHT.—I have not compared the two, sir.

LORD MERSEY.—It might be that your spot is a mile in another direction.

MR. HAIGHT.—I think, my Lord, that our courses lead us close to the wreck, and I think that Captain Kendall's courses lead him a mile beyond the wreck. That, frankly, was why I asked Captain Kendall to mark his chart.

LORD MERSEY.—Apparently this gentleman now says that he cannot mark the spot upon the chart which we have hitherto had in the case.

MR. HAIGHT.—Captain Gagnon has given the bearing and the distance from Father Point, and if he runs a line at the angle which he has taken as the bearing from the buoy and measures the distance, while he cannot get the point to a second, it cannot be more than fifty yards out of the way.

GAGNON.

SESSIONAL PAPER No. 21b

By Mr. Newcombe:

5558. Q. You have the Cock Point buoy marked on this chart?—A. Yes.

5559. Q. And you have the position of the buoy marked exactly?—A. Yes, sir.

5560. Q. Now, that bears to the northward so many degrees east, I suppose?—A. Yes, sir.

5561. Q. Now then, three miles or thereabouts; you can measure it on the side, and do you not arrive at the precise position on this chart by measuring so many miles on the same course?—A. If I worked it this way I might.

By Lord Mersey:

5562. Q. Would you like to retire and make another point?—A. Yes, sir.

Mr. HAIGHT.—May the witness transfer the location both to our diagram and to Captain Kendall's?

LORD MERSEY.—(To witness): You will go away and see if you can come back with an intelligent answer.

Chief Justice MCLEOD.—It is your contention that the boat was struck while she was moving?

Mr. HAIGHT.—My contention is that the *Empress* was moving across our bow and that as they came together the stem was swung around and she disappeared off in the fog.

Chief Justice MCLEOD.—And you say she went to the bottom some distance from the place where she first struck.

Mr. HAIGHT.—Yes, she got beyond our vision in the fog and I have cross-examined to see how quickly she disappeared with the view of satisfying myself how far she could probably have gone but we have not found a witness who was quick enough, no matter how much clothes he had on, to get on deck before the port side was practically impossible. I assume she ran therefore a few lengths only.

LORD MERSEY.—Is there any other witness?

Mr. NEWCOMBE.—To go back to the subject you mentioned the other day, there are three survivors of the night watch among the stewards—Morl, Powell and McDonald. These men might know something about whether the doors were closed and whether the ports were closed.

LORD MERSEY.—Did you ascertain what they do know?

Mr. NEWCOMBE.—I have not seen them; they are here.

LORD MERSEY.—You should have done it. You do not know whether they can tell us anything or not?

Mr. NEWCOMBE.—I do not know what they can say.

LORD MERSEY.—That is not the way to bring witnesses into court. Some one ought to inform you what they intend to say. However, if you think they are of sufficient importance let us call them.

WILLIAM MORL, night watchman, *Empress of Ireland*, sworn.

By Mr. Newcombe:

5563. Q. Were you one of the night watchmen of the middle watch on the *Empress* when she foundered?—A. I was night watching that night.

5564. Q. Were you on deck at the time of the collision?—A. I was.

5565. Q. Where?—A. On the starboard side forward of the screen.

5566. Q. On which deck?—A. On the lower promenade deck.

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5567. Q. Did you get any orders at the time of the collision?—A. No orders at all, sir.

5568. Q. Do you mean to say that from the time the ship struck you received no orders afterwards?—A. After the ship struck?

5569. Q. Yes. A. Yes, I received orders after she struck.

5570. Q. What orders did you get and from whom?—A. I received orders from the chief steward to call passengers and order them to put on life-belts and go to the boat deck.

5571. Q. Was that immediately after the collision?—A. Immediately after I came in off the deck.

5572. Q. Had the ships separated at that time?—A. They had.

5573. Q. Did you see the ships in collision when they were in contact?—A. I did, sir.

5574. Q. Tell me what you did now having received those orders?—A. From what time?

5575. Q. From the time the chief steward saw you.—A. I went on the upper promenade-deck, lit two emergency lamps, calling out at the same time, came down to the lower promenade deck, lit two more emergency lamps, went around on the port side knocking at the bulkheads, calling passengers, went through the library and back to the starboard side. At this time there was a heavy list on and I went up on the higher promenade deck and I went through the ladies' lavatory from the starboard side, came out on the port side, went up on the deck and from there dropped into the water.

5576. Q. Do you know anything about the closing of any water-tight doors on the ship?—A. No, sir.

5577. Q. Do you know anything about the condition of the port holes? Were all the ports closed?—A. As far as my department was concerned, all ports were closed.

5578. Q. Is it part of your duty to see that the ports are closed in case of fog?—A. Some of the ports. They are distributed among the night watch and you do a certain section. I was on the forward section of the saloon deck.

5579. Q. Do you know if these port holes were closed?—A. I know that all the alley-way ports were closed.

By Lord Mersey: .

5580. Q. What about the ports in the passengers' cabins?—A. I cannot say anything about them; I do not know what cabins were occupied that night, sir.

5581. Q. I suppose that people in the cabins could open their ports if they chose?—A. They could if they were not screwed down very tightly, otherwise not.

By Chief Justice McLeod:

5582. Q. You were on the starboard side of the ship?—A. When?

5583. Q. When you were on watch that night?—A. Both port and starboard; we have three decks.

By Mr. Newcombe:

5584. Q. Would you know in what condition these ports were when the ship left Quebec? Were they then closed or open?—A. When she left Quebec they were all open.

5585. Q. Who closed them afterwards?—A. The bedroom stewards, sir.

5586. Q. Were the bedroom stewards instructed to see that all these ports were closed?—A. Not exactly instructed. It would be their orders.

5587. Q. As a matter of fact do you know?—A. I was not on duty; I cannot say.

5588. Q. At what time would this closing take place?—A. They were closed when I went on duty at 11 o'clock.

5589. Q. They were closed? Do you mean to say that the windows in the cabins were closed?—A. I do not know anything about those.

5590. Q. You do not know how they were at 11 o'clock?—A. No.

5591. Q. But all those in the passageways or alleyways were closed?—A. Yes.

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By Lord Mersey:

5592. Q. Are there any in the alleyways?—A. One in each.

5593. Q. You mean one in each alleyway?—A. One in each alleyway, one at the top of the long alleyway.

5594. Q. Then, there is one, or two, in every cabin?—A. One in each outside cabin.

5595. Q. Are there more?—A. Not on that deck.

5596. Q. There is one in every cabin?—A. One in every cabin.

5597. Q. How many cabins?—A. From 201 to 229.

5598. Q. From 201 to 229?—A. Odd numbers on the port side, even numbers on the starboard side?

5599. Q. On the starboard side there would then be about 14 ports, would there not?—A. 14 on each side.

5600. Q. We are only concerned at present with the starboard side. There were 14 on the starboard side and about these you can give us no information?—A. Not about the room ports.

5601. Q. You do not know whether they were open or closed?—A. I do not know.

By Mr. Newcombe:

5602. Q. Were there two rows of ports on the starboard side, one above the other?—A. I do not follow you.

By Lord Mersey:

5603. Q. There were 14 on the deck on which you were watching on the starboard side?—A. Yes.

5604. Q. I think that what Mr. Newcombe wants to know is whether there is a corresponding number of ports on the deck below?—A. The deck below has nothing to do with me; it is not in my department.

5605. Q. I suppose you have been on it?—A. I have.

5606. Q. Were there cabins on the deck below?—A. Immediately underneath is the saloon barber shop which has four portholes.

5607. Q. Do you know whether these were open?—A. I do not.

5608. Q. Were there cabins besides the barber shop?—A. Lavatories and cabins from 302 to 500 and something—I forget the number.

5609. Q. Can you tell me whether they were open?—A. I cannot.

By Mr. Newcombe:

5610. Q. Do you know whether there is any survivor from the ship who has knowledge as to whether these ports were open or shut?—A. One of the second cabin night-watchmen I believe had the knowledge but he was drowned.

5611. Q. That does not help us very much.—A. It would not help us.

5612. Q. Can any of the survivors that you know anything of give us information about that?—A. There is a man who is in Liverpool at the present time—McDonald.

LORD MERSEY.—I beg respectfully to say, Mr. Newcombe, that this is not the occasion for us to make enquiry of that kind. That enquiry ought to have been made long before this court began to sit so that the evidence might have been here.

MR. NEWCOMBE.—Yes, my Lord; we have done the best we could to get the evidence here.

By Lord Mersey:

5614. Q. How do you receive orders to close water-tight doors in a case of emergency—who gives them?—A. The order comes from the bridge to close water-tight doors, as I understand, blown by the siren, but water-tight doors I have nothing to do with.

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5615. Q. You have nothing to do with the water-tight doors but the order to close them comes by means of a blast from the siren?—A. Quite right, my Lord.

5616. Q. That is all?—A. That is all.

5617. Q. Did you close any doors; is it your duty at any time to close water-tight doors?—A. Not water-tight doors but simply the doors out to the lower promenade on each side and the upper promenade on each side.

5618. Q. Whose duty is it?—A. The men that are told off for water-tight doors during inspection every day.

5619. Q. Who are they; are they stewards?—A. They are stewards.

5620. Q. Is there any one of these stewards here?—A. There is one in Quebec, but he is attending a funeral this afternoon—Hayes.

By Chief Justice McLeod:

5621. Q. He was the only one who was saved?—A. I believe so.

LORD MERSEY.—Have you asked him about the matter?

MR. ASPINALL.—He was called and stated that he had tried to get to these doors.

LORD MERSEY.—Why could he not do it?

MR. ASPINALL.—There was water in the alleyway which, he said, prevented him.

By Sir Adolphe Routhier:

5621½. Q. Is there any one entrusted with the closing of water-tight doors?—A. One man saved in Quebec.

By Lord Mersey:

5622. Q. That is not the question you are asked. The question is: How many men on board the ship are there whose duty it is, when the siren blows the warning, to close the doors?—A. I could not say; I have never been on the bulkhead doors.

5622½. Q. You do not know?—A. I do not know.

Cross-examined by Mr. Haight:

5623. How are orders given to close the port holes?—A. No orders given at all, sir.

5624. Q. Is there no order which can be given under which stewards will enter cabins and close cabin port-holes in case of need?—A. If passengers want them closed they ring their bell and the bedroom steward closes them.

5625. Q. But is there no standing order which can be given in a case of emergency which, when given, instructs all night watchmen, all stewards on duty, to see that all port holes are closed?—A. As soon as the whistle blows for fog all port holes are closed.

5626. Q. In bedroom cabins?—A. In bedroom cabins, and in alleyways.

5627. Q. When the fog whistle began to blow on this occasion did you close any port holes in cabins?—A. I did not, sir.

By Lord Mersey:

5628. Q. Is that done as soon as the fog whistle blows?—A. No, sir. I look outside and see if it is very foggy and the weather is anything like rough and if so we close all ports.

5629. Q. It is for the comfort of the passengers, I suppose, not the safety of the ship? You do not close them because you think the ship is in danger of sinking, do you?—A. We close the ports if it is foggy.

5630. Q. For the comfort of the passengers or for some other reason?—A. No other reason I can give you.

5631. Q. Except what?—A. Matter of form,—that is all I can say.

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5632. Q. Form? Is it done in order that the passengers may be more comfortable in their berths?—A. Some passengers prefer their ports open; other passengers prefer their ports closed.

5633. Q. Suppose you go into a cabin on a foggy night and begin to close the port hole and the passenger says: Leave it open; what do you do?—A. Close it, sir.

5634. Q. Then, after you have closed it, you go out of the cabin?—A. Sometimes I have to.

5635. Q. Then, if the passenger opens it again, what happens?—A. He cannot open it once I close it.

5636. Q. You hermetically seal it?—A. I screw it down with a key and he cannot open it.

5637. Q. Then, I understand, when there is a fog you screw up the port holes in such a way that they cannot be opened except by means of your key?—A. Not without the key.

5638. Q. Did you do it on your deck on this night?—A. I did not.

5639. Q. Why not; there was a fog, you know.—A. There was no card on the indicator telling me what rooms were occupied. The rooms that were not occupied, I should say their ports were screwed down.

5640. Q. Why should you say so? There was nobody in these cabins, you know; they were not occupied?—A. If a man had an empty cabin he would naturally have his porthole screwed up; otherwise it would be a lot of extra work, my Lord.

5641. Q. At all events you have nothing to say as to whether the portholes were closed or open?—A. I am sure that the alleyway ports were closed and screwed down.

5642. Q. I am not talking about alleyway ports; I am talking about the ports in the cabins.—A. Not the cabin ports, my Lord.

5643. Q. There was nobody looked to that?—A. Nobody looked to that.

By Sir Adolphe Routhier:

5644. Q. You had no command to do it?—A. (No answer).

5645. Q. Had you received any order to do it?—A. There was nobody to give me any order in regard to it.

By Lord Mersey:

5646. Q. Except the siren?—A. Except the siren.

By Mr. Haight:

5647. Q. Did you hear the siren?—A. I heard the blowing.

By Lord Mersey:

5648. Q. What is the meaning of that answer?—A. I heard the ship blowing.

5649. Q. Is that the siren?—A. That is the siren.

By Mr. Haight:

5650. Q. Is it not true that fog whistles are blown on a whistle which has one continuous note and that the siren has a rising note, a wailing sound, quite different from the fog whistle.—A. One is a drawn out note and the other a shrill one.

By Lord Mersey:

5651. Q. One is a scream, is it not?—A. One is a scream.

By Mr. Haight:

5652. Q. Is it not your duty to immediately attend to the closing of the ports when you hear the siren's scream?—A. When I heard the siren's scream, I was up on deck, sir.

5653. Q. When you do hear the siren's scream are there not standing orders as to what you should do?—A. Yes.

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5654. Q. What are they?—A. Light the emergency lamps.

5655. Q. The siren then does not call upon you to close the port holes?—A. No, sir.

5656. Q. And there is then no standing order on the ship?—A. No standing order.

5657. Q. I understood you to say that you got orders from the chief steward to call the passengers, then you went to the upper deck 'and lit the emergency lamps; was it part of the chief steward's orders that sent you up to light the emergency lamps?—A. That was my first duty in case of fog.

5658. Q. Light the emergency lamps?—A. Yes.

5659. Q. The siren is not a signal to light the lamps, but a fog whistle?—A. That is it.

5660. Q. Is it not true that you never heard the siren at all?—A. I heard the siren blow when I was on the deck.

5661. Q. Was that after the collision?—A. That was after the collision.

By Lord Mersey:

5662. Q. Were the ports in the first-class dining saloon closed?—A. They were all closed.

5663. Q. You can say that; you know that?—A. I know that.

By Mr. Aspinall:

5664. Q. Was it a fine night?—A. When we dropped the pilot it was very fine.

5665. Q. No wind?—A. I should say not.

5666. Q. Smooth sea?—A. Very calm.

Witness retired.

Mr. NEWCOMBE.—Call Mr. Powell.

Mr. MORL (the previous witness).—Mr. Powell is not here; he is attending a funeral this afternoon.

Chief Justice MCLEOD.—Do I understand that Steward Hayes has been called?

Mr. ASPINALL.—Yes, my Lord.

Chief Justice MCLEOD.—Then we know all that he has to say.

Mr. ASPINALL.—Yes, my Lord.

MICHEL GAGNON, recalled.

By Lord Mersey:

5667. Q. Now, have you succeeded?—A. Yes, sir, as good as I can see.

5668. Q. What?—A. As good as I can do it, sir.

5669. Q. What does that mean?—A. It means as good as I can do it.

5670. Q. Have you some doubt about it?—A. No, no doubt.

By Mr. Newcombe:

5671. Q. Have you marked the location of the wreck upon these two charts?—A. Yes, sir.

5672. Mr. HAIGHT.—Put a letter right beside his mark so that we will know where it is.

Mr. NEWCOMBE.—Put an 'E.'

Mr. HAIGHT.—Put 'W' for wreck.

Mr. NEWCOMBE.—I suggested 'E' because it stands for *Empress*.

Mr. HAIGHT.—We have an 'E' already.

LORD MERSEY.—What is this gentleman's name?

Mr. HAIGHT.—Gagnon.

GAGNON.

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LORD MERSEY.—Put a 'G' (Letter 'G' placed beside Captain Gagnon's mark.)

By Mr. Newcombe:

5673. Q. The circle with the dots in it and with the letter 'G' marks the place of the wreck on the chart 'C'?—A. Yes.

5674. Q. And likewise on chart 'E'?—A. (No answer).

LORD MERSEY.—How many charts are there; there seem to be three now.

Mr. HAIGHT.—We have two circles and dots now.

Mr. NEWCOMBE.—We will put a 'G' on this one too. This is the one he marked originally.

LORD MERSEY.—Now there is a third chart?

Mr. NEWCOMBE.—The third chart is the first and only chart which was produced showing the original location.

LORD MERSEY.—That was the chart which this gentleman brought with him.

Mr. NEWCOMBE.—Yes, it is an Admiralty chart and the trouble is that the other two charts are American charts and they do not correspond. He has made this location by cross-bearings and sextant angles and the points used on the shore for this purpose do not appear on the American charts; therefore, unless you have the Admiralty chart to refer to, you cannot see what the captain has done.

Chief Justice McLEOD.—Our evidence hitherto has been directed entirely to these two charts.

Mr. NEWCOMBE.—If you do not want the Admiralty chart, well and good, but this is the chart according to which he took his bearings. He did not know at the time what we were doing up here when he laid this out and his instructions were to lay it out upon an Admiralty chart and not upon an American chart.

LORD MERSEY.—Who instructed him?

Mr. NEWCOMBE.—The Department of Marine and Fisheries, my Lord.

LORD MERSEY.—Why didn't they instruct him in the charts that we had been using?

Mr. NEWCOMBE.—This was done some time ago, my Lord, and I don't think it was known at that time what charts would be used here.

5675. Q. When were these bearings taken, Captain Gagnon?—A. Two weeks ago last Sunday.

By Lord Mersey:

5676. Q. You mean they were taken a fortnight ago?—A. Yes, my Lord.

Mr. NEWCOMBE.—You see, my Lord, I couldn't tell.

LORD MERSEY.—No, quite right, but I am not going to look at these things at present. Do you want to look at them, Mr. Aspinall?

Mr. ASPINALL.—No, my Lord.

LORD MERSEY.—Do you want to ask any questions about them, Mr. Haight?

Mr. HAIGHT.—No, my Lord.

LORD MERSEY.—Then let the chart be marked.

(The chart is marked as Exhibit E).

Mr. HAIGHT.—If your lordship will pardon me, I would like to ask one question.

5677. Q. Captain Gagnon, were you using a magnetic compass in your calculations?—A. Yes, sir.

LORD MERSEY.—Now gentlemen, will you put these charts away? Now is there any other witness?

Mr. NEWCOMBE.—Yes, my Lord, I will call Captain Walsh.

GAGNON.

CAPTAIN JOHN F. WALSH, (recalled).

By Mr. Newcombe:

5678. Q. Now Captain Walsh, you have already been sworn?—A. Yes.

5679. Q. You are the Marine Superintendent of the Canadian Pacific Railway Company?—A. I am.

5680. Q. Has it been a part of your business to ascertain the names of the persons who were on the *Empress of Ireland* when she foundered on the 29th of May?—A. Yes, it has.

5681. Q. Do you produce a list of the names of the people, passengers, crew, stewards, and everybody on board?—A. That is a complete list.

LORD MERSEY.—Does it distinguish, Mr. Newcombe, between adults and children?

By Mr. Newcombe:

5682. Q. Can you answer that, Captain Walsh?—A. It does not particularize there, my Lord, but I can produce a statement making a distinction between the different classes.

LORD MERSEY.—We are asked, I think, how many were adults and how many were children?—A. Yes, we have handed it in already, my Lord.

That is a copy of the list we made out.

By Chief Justice McLeod:

5683. Q. Does that list show how many were killed by accident on board the *Empress* as distinguished from those who were drowned?—A. It was impossible, my Lord, to say how many were killed. We were unable to arrive at that. We have no knowledge of any particular accident on board by which any persons met their deaths.

By Mr. Newcombe:

5684. Q. Now according to this statement, Captain Walsh, which is produced as Exhibit Q. there were first-cabin passengers, 87.—A. Yes.

5685. Q. Of whom 36 were saved and 51 lost?—A. Yes, sir.

5686. Q. And a total of second cabin passengers, 253, of whom 48 were saved and 205 were lost?—A. That is right.

5687. Q. And a total of third cabin passengers of 717, of whom 133 were saved, and 584 were lost?—A. That is correct, to the best of our ability. It is hard to find out the exact truth, but the only discrepancy would be in the names. The numbers are correct.

5688. Q. You say the numbers are correct, and the names are as correct as you can get them?—A. Yes, we have made very careful enquiries to identify them.

5689. Q. Then the crew, including the musicians, total 420?—A. Yes.

5690. Q. Of whom 248 were saved and 172 lost?—A. Yes, that is right.

5691. Q. Now, here is a synopsis, showing the percentages, attached to the statement?—A. Yes.

5692. Q. And doesn't it show the males, and females, and children?—A. Yes, it does.

5693. Q. Well, then, can you give us the information by reference to that?—A. Yes, I can. The information here is the very best we can get, and the distinction between male and female and children and adults is all there, it is quite distinct.

5694. Q. Well, will you refer to this and make a statement as to how many males there were, how many females, and how many children?—A. Do you wish me to read this?

5695. Q. Yes, refer to that to refresh your memory and make the statement from that if you remember it.

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By Lord Mersey:

5696. Q. Captain Walsh?—A. My Lord.

5697. Q. Have you read the questions that have been prepared by the government for this Commission to answer?—A. I have, my Lord.

5698. Q. Are you in a position to take a copy of those questions and write the information you have which will enable the court to answer some of the questions?—A. Yes, my Lord.

5699. Q. For instance we have here a question as to what was the total number of persons employed in any capacity upon her, and what were their respective ratings? Are

5704. Q. Well what do you say as to that?—A. She did, my Lord.

5700. Q. Then the next question: 'What was the total number of her passengers, distinguishing sexes and classes, and discriminating between adults and children?' Are you able to do that?—A. I am, my Lord.

5701. Well have you done it?—A. I have, my Lord, in this document which I am now handing you.

5702. Q. Let me see it. Why is this in duplicate . . . you have given me two copies of the same thing?—A. That was handed over to Captain Lindsay, the representative of the Board of Trade, at their request, and I gave them two copies so that they could save one for their file and have the other for use.

5703. Q. Very well. Now the next question is: 'On leaving Quebec, on or about the 28th day of May last, did the SS. *Empress of Ireland* comply with the requirements of the Merchant Shipping Act, 1894 to 1906, and the rules and regulations made thereunder, with regard to the safety and otherwise of passenger steamers and emigrant ships?' Can you answer that?—A. Yes, my Lord.

5704. Q. Well what do you say as to that?—A. She did, my Lord.

5705. Q. Now the next question is, 'In the actual design and construction of the SS. *Empress of Ireland*, what special provisions, if any, were made for the safety of the vessel and the lives of those on board, in the event of collisions and other casualties?' Have you prepared any statement with reference to that rather comprehensive question, Captain Walsh?—A. No, my Lord, not a complete one.

5706. Q. Now who is in a position to give us information which will enable us to answer that?

Mr. NEWCOMBE.—Which is the number, my Lord.

LORD MERSEY.—No. 3.

Mr. NEWCOMBE.—I propose to examine Mr. Hillhouse upon that.

LORD MERSEY.—Then the next question is: 'Was the steamship *Empress of Ireland* sufficiently and efficiently officered and manned?—A. She was, my Lord.

5707. Q. In your opinion she was sufficiently and efficiently officered and manned?—A. Yes.

5708. Q. Then the next question is, 'Were the arrangements for manning and launching the boats on board the steamship *Empress of Ireland*, in case of emergency proper and sufficient?' . . . what have you to say as to that?—A. They were, my Lord.

5709. Q. And the remainder of the same question, 'Had a boat drill and a bulk-head door drill been held on board, and if so, when?' We have had that in evidence already I think, that they were held, and I believe it was proved that they were held the day before the ship sailed?—A. Yes, my Lord, Captain Staunton has answered that.

5710. Q. Then, 'what was the carrying capacity of the respective boats?'—A. 1,860 was the complete number that could be carried. That has also been proved by Captain Staunton.

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5711. Q. Then, 'what number and description of life buoys and life-jackets were on board the vessel.' I don't know whether we have had the number of life belts or not?—A. Yes, my Lord, Captain Staunton gave them to you.

5712. Q. I understood that we were to see a sample of the life belts?

Mr. NEWCOMBE.—My Lord, there is to be a life jacket here in the morning.

By Lord Mersey:

5713. Q. And then the next question is: 'Where were they carried,' Can you answer that for us, Captain Walsh?—A. The buoys were carried in prominent places, distributed around the ship, and there was a belt in each compartment, that is in each bedroom, for each person. The crew had their belts in their rooms, and the emergency belts were at hand, ready for use, when they were needed. There is a belt for each person and quite a number of duplicates as well.

5714. Q. And then the next question is: 'Were they in good condition and adequate for the purpose intended?'—A. They were, My Lord.

5715. Q. Then we come to No. 6: 'What installations for receiving and transmitting messages by wireless telegraph were on board the *Empress of Ireland*?' I think we have had that already, have we not?—A. Yes.

5716. Q. And then: 'How many operators were employed in working such installations?'—A. There were two, my Lord.

5717. Q. And 'Were the installations in good and effective working order?'—A. They were, my Lord.

5818. Q. Then, 'Were the number of operators sufficient to enable messages to be received and transmitted continuously by day and night?' You can answer that, Captain Walsh?—A. They were, my Lord.

5719. Q. And then we come to question No. 7, 'At or prior to the sailing of the SS. *Empress of Ireland* from Quebec, on the 28th of May last, what, if any, instructions as to navigation, were given to the master, or known by him to apply to her voyage?' You produced the sailing regulations of the Canadian Pacific Railway, and your letter?—A. Yes, my letter of instructions, sailing orders, which are filed.

5720. Q. And then the remainder of that question: 'Were such instructions, if any, safe, proper, and adequate, having regard to the time of the year and dangers likely to be encountered during a voyage?'—A. They were, my Lord.

5721. Q. Now with regard to Question No. 8: 'When leaving Quebec, on or about the 28th of May last, was the vessel in charge of a Quebec pilot?'—A. Yes.

5722. Q. 'If so, when and where was the pilot discharged, and what was the condition of the weather at that time?' I suppose the answer to that is at Father Point, and the weather is fine and clear?—A. Yes, my Lord, that is right.

5723. Q. Now question 9: 'After the pilot left the SS. *Empress of Ireland* was a double watch kept on deck?' This is so, is it not, Captain Walsh?—A. A double watch would be kept.

5724. Q. Now, we come to question 10, section (a): 'At what time in the morning of the 29th of May last did the *Empress of Ireland* first sight the light or lights of the Norwegian steamer *Storstad* and in what position was the *Empress* then?' We have that in Captain Kendall's evidence, I think?—A. Yes, my Lord.

5725. Q. And now section (b) of the same question: 'At what time on the morning of the 29th May last did the Norwegian steamer *Storstad* first sight the light or lights of the SS. *Empress of Ireland* and in what position was the *Storstad* then?'—we will have the *Storstad's* evidence about that?—A. Yes, my Lord.

5726. Q. Now, 'at this time were the vessels crossing so as to involve risk of collision within the meaning of article 19 of the Regulations for preventing collisions at sea?'—you cannot answer that Captain Walsh, can you?—A. I cannot, sir.

WALSH.

SESSIONAL PAPER No. 21b

5727. Q. Well then, we will continue: 'If so, did the *Empress of Ireland* comply with the provisions of the said article, and of articles 22 and 23, and did the SS. *Storstad* comply with article 21 of said regulations'; that you cannot answer?—A. No, sir.

5728. Q. Now, question 11. 'After the vessels had sighted each other's lights, did the atmosphere between them become foggy or misty, so that lights could no longer be seen, and if so did both vessels comply with article 15, and did they respectively indicate on their steam whistles or sirens the course or courses they were taking by the signals set out in article 28 of the said regulations'—you can hardly answer that, can you, Captain Walsh?—A. I cannot answer that.

5729. Q. Now, question 12: 'Were the circumstances of this case such as to bring into operation the provisions of article 27 or 29 of the said regulations? If so, did the masters of both vessels take prompt and proper means or measures to comply with the requirements of the said articles?'—that you cannot answer?—A. No, my Lord.

5730. Q. Well, question 13: 'In what position in the River St. Lawrence and at what time on the morning of the 29th of May last did the collision occur between the SS. *Empress of Ireland* and the SS. *Storstad*? At what time did the SS. *Empress of Ireland* founder, and how was it that she sank so quickly after the collision had occurred,'—that of course you cannot answer?—A. Well no, my Lord.

5731. Q. Well, question 14: 'Was proper discipline maintained on board SS. *Empress of Ireland*, after the casualty occurred'—I think we have the evidence?—A. Yes, my Lord.

5732. Q. And question 15: 'What messages for assistance were sent by the *Empress of Ireland* after the casualty, and at what times respectively? Were the messages sent out received at the wireless station at Father Point? Were prompt measures taken by those on shore to render assistance? What assistance was rendered by the government steamers *Eureka* and *Lady Evelyn*?—I think we have the evidence to answer that question?—A. Yes, my Lord.

5733. Q. And question 16: 'Was the apparatus for lowering the boats on the SS. *Empress of Ireland* at the time of the casualty in good working order?'—A. It was, my Lord.

5734. Q. And the rest of that question is: 'How many boats were got away before the vessel sank?'—We have, I suppose, although it is a matter of doubt, the information which will enable us to answer that question?—A. Yes, my Lord.

5735. Q. And the next question: 'Did the boats, whether those under davits or otherwise, prove to be serviceable for the purpose of saving life? If not, why not? What steps were taken immediately on the happening of the casualty? How long after the casualty was its seriousness realised by those in charge of the vessel? What steps were then taken? Were all water-tight doors in bulkheads immediately closed? What endeavours were made to save the lives of those on board and to prevent the vessel from sinking?'—well, we have heard so far not much upon that subject. I don't know whether Mr. Newcombe will be able to put any additional evidence before us or not.

Mr. NEWCOMBE.—I am afraid not, my Lord.

LORD MERSEY.—I think very likely you will not, because it is certainly very difficult to get it.

Mr. NEWCOMBE.—Well, there is the witness who is at the funeral this afternoon. I propose to call him, and he may know something about it.

By Chief Justice McLeod:

5736. Q. Doesn't the chief steward know something about that?

Mr. NEWCOMBE.—It is possible that he may, my Lord.

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By Lord Mersey:

5737. Q. Now we come to question No. 17: 'How many persons on board of the SS. *Empress of Ireland* at the time of the casualty lost their lives by: (1) being killed by the collision or injuries from the collision; (2) accidents on board'—that is a question you say you cannot answer?—A. I cannot answer.

LORD MERSEY.—Do you suggest that we have the means of answering that question?

MR. NEWCOMBE.—No, my Lord, I think there is no evidence upon which that can be answered.

LORD MERSEY.—Nor do you think you will likely be able to procure it?

MR. NEWCOMBE.—No, my Lord.

By Lord Mersey:

5738. Q. Then the next question is: 'What was the number of (a) passengers; (b) crew, taken away in each boat on leaving the vessel?'—Have we evidence to enable us to answer that question?

MR. NEWCOMBE.—My Lord, I don't think so.

LORD MERSEY.—We know the total number of passengers who were saved—I am not going to criticise this question nor the use it serves, but I must say that it is impossible for us to tell how many were taken away in each boat, nor do we know whether each boat carried its full load and if not why not?

MR. NEWCOMBE.—Those are only suggested questions, my Lord.

LORD MERSEY.—They are questions which the department puts and intends that we should answer if we can get evidence to enable us to do it.

MR. NEWCOMBE.—I am told that according to the practice of the Board of Trade rules, which we are endeavouring to follow, it is open to us to alter and amend these questions.

LORD MERSEY.—Well, I don't know whether we have before us our Commission, or rather the section of the Act of Parliament. We may include in our report any observations which we think fit, but I think we have these specific questions to answer.

MR. VAUX.—My Lord, these questions are formulated and mentioned in the notice which is served upon the parties, and they are handed in for your information at the beginning of the inquiry.

LORD MERSEY.—To guide us.

MR. VAUX.—Yes, my Lord, and we have to settle these questions after the evidence has been heard, and we hand them in formally, and then those are the questions which the Government puts to your Lordships. So this copy of questions is subject to amendment, and it may be that Mr. Newcombe, having regard to what evidence is available in regard to some of them, will have to modify them.

LORD MERSEY.—I don't know whether you propose to remodel your questions—I do not wish you to do it unless you think proper.

MR. VAUX.—No, my Lord, subject to what Mr. Newcombe thinks I might suggest that there may be an addition to question 11, which reads: 'After the vessels had sighted each other's lights, did the atmosphere between them become foggy or misty so that lights could no longer be seen? If so, did both vessels comply with article 15, and did they respectively indicate on their steam whistles or sirens the course or courses they were taking, by the signals set out in article 28 of the said regulations.' I think where that question asks if both vessels complied with article 15, we should add article 16, and ask if they complied with articles 15 and 16.

LORD MERSEY.—You think article 16 ought to be added there?

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MR. VAUX.—Yes, my Lord, that may be altered there, and possibly question 17 might be amended, having regard to the fact that there is before you insufficient evidence to enable you to answer that question.

LORD MERSEY.—We cannot answer questions if we have not material, and we shall have to pass them by. Mr. Haight, do you wish to ask Captain Walsh any questions?

MR. HAIGHT.—No, my Lord.

LORD MERSEY.—And you, Mr. Aspinall?

MR. ASPINALL.—No, my Lord.

LORD MERSEY.—Mr. Gibsone?

MR. GIBSON.—Yes, my Lord, I would like to ask a question.

5739. Q. I understand you to say, Captain Walsh, or did I understand you to say, that after the ship left Father Point a double watch was kept on deck? I thought I heard you answer that question in the affirmative?—A. My answer was that I would expect it to be, or something to that effect. I didn't say yes, for I wasn't there.

5740. Q. And you have no personal knowledge as to that?—A. No, I have no personal knowledge.

5741. Q. I thought you answered, yes?—A. No, I didn't say yes.

LORD MERSEY.—Now, gentlemen, I cannot wait any longer. The shorthand writers have to make their report, and we shall have to get fresh shorthand writers if we don't rise now. Would you like this witness to come back to-morrow?

MR. NEWCOMBE.—Yes, my Lord.

LORD MERSEY.—Very well, then you will come back to-morrow, Captain Walsh?

Captain WALSH.—Yes, my Lord.

LORD MERSEY.—And it is suggested that we have not sufficiently examined the stewards as to the closing of the water-tight doors. Now there is one witness who is engaged this afternoon, apparently, and I will need him to be here to-morrow, and my colleague the Chief Justice suggests that we have back the chief steward, Gaabe, and Williams. Can you get them, Mr. Aspinall?

MR. ASPINALL.—Yes, my Lord.

LORD MERSEY.—Let them be here.

Chief Justice McLEOD.—It occurs to me that they may know something more about the closing of the water-tight doors.

LORD MERSEY.—Then we will rise and adjourn until ten o'clock to-morrow morning.

The Commission thereupon adjourned until 10 a.m. Tuesday, June 23rd.

SEVENTH DAY.

QUEBEC, TUESDAY, June 23, 1914.

The Commissioners appointed by the Honourable John Douglas Hazen, the Minister of Marine and Fisheries of Canada, under Part X of the Canada Shipping Act as amended, to enquire into a casualty to the British Steamship *Empress of Ireland*, in which the said steamship belonging to the Canadian Pacific Railway Company was sunk in collision with the Norwegian Steamship *Storstad*, in the River St. Lawrence on the morning of Friday the 29th day of May, 1914, met at Quebec this morning, the twenty-third day of June, 1914.

LORD MERSEY.—I have a letter here which I have received this morning, and which I have communicated to my colleagues. It may be worth while that you should read it, Mr. Newcombe, as it seems to be of importance. Will you take it and read it?

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Mr. NEWCOMBE.—Yes, my Lord, I will make inquiries about this. This does not purport to be a statement of a man who was present.

LORD MERSEY.—Oh no, it is somewhat remote, because it is something written to me about the story told by a person who heard the story told to some other person. However, it seems to me to be somewhat important, and you might make inquiries, and if you would I shall be glad. That is, of course, if you think it worth while. It is a matter for you to decide, you know, Mr. Newcombe.

Mr. NEWCOMBE.—Yes, my Lord, I shall make inquiries. In the meantime, Captain Walsh is still in the witness box.

LORD MERSEY.—You have already been sworn, Captain Walsh?—A. Yes, my Lord.

CAPT. WALSH (examination resumed).

By Mr. Newcombe:

5742. Q. Captain Walsh, by the passenger certificate which was issued in February, 1914, to the *Empress of Ireland*, I see that life-jackets for adults are called for to the number of 1,950?—A. Yes.

5743. Q. And according to the certificate issued on the 16th of May, 1914, to the *Empress* as an emigrant ship, the number of life-jackets stipulated is 2,212?—A. Yes.

5744. Q. Can you give any explanation of the difference in these two certificates?—A. I do not quite follow, sir.

5745. Q. Well you see this emigrant certificate issued in May calling for 2,212 life-jackets?—A. Yes.

5746. Q. Now this is the declaration of the certificate as a passenger steamship, and mentions 1,950. Are you aware that any equipment was added after the passenger declaration?—A. No, sir, I am not aware. The life-belts on board—I mean to say the Board of Trade would only call for the number that are required to be supplied, namely, one for each person. I know that there were 2,200 and odd on board of it.

5447. Q. There were in fact 2,212?—A. I know that there were over 2,200 life-belts on board.

5748. Q. Can you tell me, Captain Walsh, what was the type of the boat-lowering apparatus and the disengaging gear aboard the *Empress*?—A. The boat-lowering gear was just the simple gear, block and tackle.

5749. Q. And how were the boats disengaged?—A. They were unhooked when landed in the water.

5750. Q. Now the ballast tanks, the water ballast, when the ship sailed, were they full or empty?—A. The returns to me were that they were full throughout.

By Chief Justice McLeod:

5751. Q. With reference to these life-belts, had each member of the crew a life-belt?—A. Yes.

5752. Q. And with regard to the boats, are there certain men of the crew assigned to each boat?—A. Yes, sir, there is a boat station list, which contains the name of every man set aside to handle each boat on any emergency, or in fact whenever needed, whenever a boat is called away. There is a complete list, which is made up generally of two or three seamen, firemen, stewards, etc.—some of them would be apportioned to each boat.

5753. Q. So many to each boat?—A. Yes, sir. And when we have a boat drill here I have put the whole of these people, firemen, stewards, sailors, and every one else, into the river when the boats were called away.

5754. Q. So in case of emergency an order is given to man the boats, each man knows where he is to go?—A. Yes, my Lord, there is a list posted of the

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sailors, firemen, and this list is posted in the sailor's quarters, and the firemen's quarters, and the steward's quarters, and in prominent place in the ship.

5755. Q. Now, speaking of the life-belts?—A. If your Lordship will allow me, I have one standard life-belt here at the present time, and I have two at the station from the ship. They were picked up at Rimouski.

5756. Q. Are they the same as the one you have here?—A. Yes sir, they are the Board of Trade standard, stamped as such.

5757. Q. You might, if you please, just produce the life-belt you have here?—A. I have just sent for it, and the man will be here with it at any moment. Just now I was trying to get the two from the ship, and they came in by train this morning, and I thought perhaps I might get them ready for you if that will suit you.

Mr. HAIGHT.—Captain Walsh, have you prepared a list showing which men were actually on duty at the time of the collision, and which of these men survived?—A. Our solicitors, sir, can show it to you. They have such a list.

Mr. HAIGHT.—Have you that list there, Mr. Aspinall?

Mr. ASPINALL.—I have no doubt we have such a list. I will see if I can put my hand upon it.

By Mr. Haight:

5758. Q. Well, Captain Walsh, can you tell approximately how many men were on duty and were saved?—A. No, I couldn't. I wouldn't be able to give the figures. The figures are here.

Mr. ASPINALL.—You don't want the names, as I understand it, Mr. Haight?

Mr. HAIGHT.—No, I don't care about the names. I would like to know how many men on duty, that is how many firemen, how many stokers, how many officers, and in fact how many of each class were saved?

Mr. ASPINALL.—I think we can give you that information.

By Mr. Haight:

5759. Q. Captain Walsh, what is the pay of the master of one of the *Empress* boats?—A. About £850 a year.

5760. Q. Do the masters of the *Empress* receive more than the masters of the other boats?—A. There is a graduated scale. The junior master gets the least and the senior master gets the most.

5761. Q. Well is the master of one of the *Empress* boats the highest paid man in your fleet?—A. Yes.

5762. Q. Have you been in any other steamship lines than the Canadian Pacific Railway?—A. I served 21 years with the Elder-Dempster.

5763. Q. Do the Elder-Dempster steamship company frequently operate chartered boats?—A. I had very little to do with the chartered service. They do, yes, they operate chartered boats.

5764. Q. Did you, on such connection as you had with their chartered service—
—A. Pardon me, I did not say I personally had any connection. I had no connection with the chartered end. I was on the regular mail service between Liverpool and West and South-west Africa.

5765. Q. Well, admitting you had no connection whatever with the chartered department, do you nevertheless know that it is universal for a steamship company running chartered boats to pay gratuities to the masters of those boats?—A. No, I have no personal knowledge. I couldn't tell you. And I know there is no such gratuity paid, or a gratuity paid.

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5766. Q. What is the C. P. R. system of gratuity?—A. I am sorry, that is the one thing they fail in. They do not give gratuities that I have any knowledge of.

5767. Q. Do the officers of your line receive no recognition for really efficient service?—A. Yes, I might tell you exactly—not the officers, but the leading seamen, after a certain number of years' service, if they behave themselves well and get a stripe or badge, they get a little more, I think five shillings a month, but that is an increase of pay, not a gratuity.

5768. Q. And your way of rewarding your captains for efficient service is to promote them to bigger ships and increase their pay?—A. Yes, suitability and ability and seniority lead them to the *Empresses*, and the *Empresses* are our best.

5769. Q. You have many captains who have never sailed an *Empress* who are older than Captain Kendall?—A. Yes, we have.

5770. Q. In other words, it is efficient service to your company which causes you to pick out the best man to steer your fastest boats?—A. That is so.

5771. Q. Now one of the marks of efficiency is, I assume, the ability to make regular trips?—A. The ability to make regular trips does not enter into it. Captains are charged from the Canadian Pacific Railway Company, and from the steamship companies under whom I have served, that the lives of the passengers, and in fact all the lives entrusted to their care, must be their first care, and that they are not to take one risk of any kind.

5772. Q. Can you, from your records, prepare a statement which will show nearly the day and hour of the departure and the day and hour of the arrival of the two *Empress* boats during a series of fifteen or twenty voyages each?—A. Oh, yes.

5773. Q. That would not be a difficult matter?—A. Well it would take a day or two to pick out the details. I would have to go to Montreal to get my records.

5774. Q. Would you be good enough to telephone or wire to Montreal, asking them to make up a statement showing the day and hour upon which the *Empress* boats left Quebec, and the day and hour upon which they passed the light-ship off the Mersey?—A. Yes, all this would be quite easy. I could get it for you by to-morrow night.

5775. Q. I would very much like that information, covering say fifteen or twenty voyages for each vessel?—A. Yes, well there will be a break in the year.

5776. Q. I understand that, and that is why I gave you the number of voyages and not the number of months.—

5777. Q. Well a voyage is a month.

By Chief Justice McLeod:

5778. Q. Captain Walsh, I think I understood you to say that the water ballast tanks were full throughout when she sailed?—A. That is the information given me, your Honour.

5779. Q. Well, does that include the tanks of the double bottom?—A. Oh, yes, complete throughout the ship. The complete double bottom was full. I think from memory there were 1,700 and some odd tons of water, between 1,700 and 1,750 tons was the water ballast in the ship.

Mr. HAIGHT.—May I ask one more question, my Lord?

By Mr. Haight:

5780. Q. Captain Walsh, do you have the right "in the St. Lawrence to choose your own pilots?—A. Well, we have the same right which is common to all. All steamship companies have the right to make an application to the Minister of Marine and Fisheries, pointing out that a certain pilot would be a man agreeable to them, if they will permit, to act for us during the season, and we are subject to the agreement or permission of the minister.

5781. Q. You have a compulsory pilotage system which requires you to take on board some pilot?—A. We are at least compelled to pay.

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By Chief Justice McLeod:

5782. Q. You are bound to pay for the services of a pilot whether you take one on board or not?—A. Yes, your Honour.

5783. Q. Is the pilotage service governed by a commission?—A. Yes, your Honour, the lower river has been governed by a commission, and now the lower and upper river will in future be governed by a commission under Captain Lindsay, who has been recently appointed.

5784. Q. But at the time of this accident?—A. The lower river was under a commission.

By Mr. Haight:

5785. Q. Is Pilot Bernier the pilot you have designated to take all the C.P.R. ships?—A. Yes.

5786. Q. Does the pilot's charge vary with the draught of the vessel which they pilot?—A. Yes.

5787. Q. It is then a distinct honour and a distinct advantage to be the C.P.R. pilot?—A. Pilots think so.

LORD MERSEY.—Will you please tell me, Mr. Haight, what is the object of these questions. I can appreciate them so much better if I know the object.

MR. HAIGHT.—It seems to me, my Lord, that the pilot who is exclusively handling the C.P.R. ships and getting the benefit of so doing is appropriately classed as one of the employees of the C.P.R. line?

LORD MERSEY.—Is that observation made with the object of reflecting upon his testimony?

MR. HAIGHT.—I think the court has probably found that an entirely disinterested witness is often likely to give his testimony not only without conscious bias but also without unconscious bias, where the man who is interested, and who may be in perfectly good faith—perhaps his testimony needs to be scrutinized with a little more care. I only wanted to know if Pilot Bernier was entitled to appear as a perfectly disinterested witness.

Captain WALSH.—My Lord, I can now produce the lifebelt.

Chief Justice McLEOD.—Just a moment—Mr. Haight, you understand, under our system, when a pilot speaks a steamer the steamer has to pay whether it takes the pilot on board or not. Now what difference can there be between pilot Bernier and any other pilot.

MR. HAIGHT.—My understanding is, that the C.P.R. having the right to select from the pilots, by their selection of Captain Bernier confers upon him the advantage of piloting the biggest ship, and the pilot's charge is based upon the size of the ship; and the C.P.R. ships are the biggest ships running down the St. Lawrence.

Chief Justice McLEOD.—Well, I don't think it would affect them. They have to have a pilot, and it is true that they prefer a certain pilot to others, I suppose. In fact, I know that some steamers do prefer a certain pilot to another, but so far as interest is concerned, I cannot see any difference between him and any other pilot.

MR. HAIGHT.—There is no difference, my Lord, except that the man who is piloting only the big ships has the advantage of that employment, since the size of his charge depends upon the size of his ship.

LORD MERSEY.—I am asked to put this question:

5788. Q. The plan shows six Berthon boats, and the Board of Trade certificate mentions four, and so does the evidence of Captain Staunton—can you explain that, Captain Walsh?—A. I am inclined to think, my Lord, that there were six Berthon boats on the ship. Captain Kendall thinks there were six, and Captain Staunton thinks there were four, and it may possibly be four, but it is uncertain, for the simple reason

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that they placed two on each side of the engine-room skylight, and two just a little farther forward. Now there were four originally across before the skylight, and I understand that one of the quarter-masters told us he stood upon a Berthon boat at the side of the engine-room skylight while in port here, so there were apparently two, one on each side of the engine-room skylight, and then if there were two on the fore part, there were six on the ship. I was inclined, from what I heard, to think that there were six. I have no knowledge of it myself. I didn't see whether there were four or six.

5789. Q. Well, the Board of Trade certificate says four, you are aware of that?—

A. Yes, my Lord, I have seen a copy of that, and it distinctly says four.

5790. Q. How do you account for it saying four if there were in fact six?—A. I am not prepared to say if there were six. There may have been only four. I cannot get any two people to agree as to whether there were four or six.

5791. Q. Well, is it right to say that the plan shows six?—A. The plan, my Lord, is not correct now. When the ship came out first she had a certain number of boats in certain places. After the *Titanic* inquiry the boats were changed, and the whole plans of the boat deck were changed. Collapsible boats were placed under the steel boats, and the boats were different at first, and then they were removed to make room for the Einglehardt collapsible boats; so the builder's plan does not show the boat deck correctly now. I endeavoured myself, for the benefit of the court, to get out a plan showing the boats as we know them to be, with just a doubt as to whether these two were there or not.

By Lord Mersey:

5792. Q. If you had four, where would they be?—A. If we had four boats, there were two, one on each side of the engine room skylight, and one on each side, just in front, abaft the aft funnel. These two boats, if there, would add room for 105 more persons. She had 1850 persons provided for without them.

5793. Q. What did Captain Kendall say with reference to the boats?—will you please stand up, Captain Kendall?

CAPTAIN KENDALL.—Yes, my Lord.

5794. Q. What number of boats were there on board, Berthon boats, I mean?

CAPTAIN KENDALL.—Six, my Lord, I think.

5795. Q. Then how do you account for the Board of Trade certificate mentioning only four?

CAPTAIN KENDALL.—That I cannot say, my Lord. There were two on each side, under one cover, one on each side of the engine room skylight, making six in all. Two on each side with one cover over the two.

5796. Q. And you think that probably the Board of Trade certificate said four because they thought there was only one boat under each cover on each side?—A. Yes, my Lord.

5797. Q. And if they took the cover off they would see that there were two under each, that is what you think caused the confusion?

CAPTAIN KENDALL.—Yes, my Lord, they would have found two boats under each cover.

LORD MERSEY.—Very well, thank you, Captain Kendall.

Do you wish to ask Captain Walsh any more questions, Mr. Haight?

Mr. HAIGHT.—Yes, my Lord.

5798. Q. Captain Walsh, do you, as a matter of fact, pay a gratuity to the pilots who steer your ships?—A. No, sir.

5799. Q. Don't they receive a bonus of any kind?—A. No bonus.

5800. Q. Neither for a trip nor at the end of the year?—A. No.

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5801. Q. What do they receive as expenses?—A. Well there is a scale of expenses, common to all the steamship companies, agreed to by the managers of the different steamship companies, and of which I could not give you the details. It is an expense really, I suppose, for the trip to Rimouski or Father Point, or from here to Montreal, if one of them goes up to bring down a ship from Montreal, but that is a common expense paid by all steamship companies in a like way.

5802. Q. Paid by the steamship companies that have their special men?—A. Yes, paid by the steamship companies that have their special pilots. I don't know anything about the other methods.

5803. Q. If I come in with a tramp steamer, like the *Storstad*, I pick up a pilot and I pay him his legal fee, and that is the end of it?—A. Yes, I would think so.

5804. Q. And if you pick up a pilot you pay not only his fee but you add thereto a sum every trip which is called expenses?—A. In the case of the *Empresses* they are paid for their expenses back and forth. It is not a complete expense, for it is a sum allowed in conference between the managers of the different lines, as to what amount these men should get for expenses.

5805. Q. It is a charge which under the law they have no right to exact?—A. Of that I have no knowledge, unless this, that if you were at Halifax, and sent around to St. John for a pilot, he wouldn't come around for you unless you paid his expenses around, even on a tramp steamer.

5806. Q. But on a tramp steamer entering the St. Lawrence, I pick up a pilot at Father Point and drop him when he has finished his pilotage work, and give him his fee, he goes back to Rimouski for nothing, so far as I am concerned?—A. Yes, that is on the *tour de rôle*. The men in turn go down and pick their next ship up. The other men go down and wait. They can't miss the ship, and they are there in good time to meet their ship. The *tour de rôle* men take the very first ship that comes along. They may not even get out of their pilot boat at Rimouski. Where it would be fair to them, it would be unfair for the regular pilot.

5807. Q. Well, the pilot commission has no right by law to make you a charge other than that which is based upon the draught of your ship?—A. That is so, yes. That is right.

5808. Q. So when you pay your special pilot an additional sum, whether you call it expenses or not, you are paying him something which under the law he is not entitled to require?—A. Custom is a great leveller.

5809. Q. Please answer yes or no?—A. Yes, we pay them their expenses.

5810. Q. Will you please answer yes or no to the question. Do you pay something you are not required to pay under the law?—A. I am not too sure about that. They could compel us to pay their expenses.

5811. Q. The *tour re rôle* man gets nothing for expenses?—A. And I have explained why not.

5812. Q. That is all right, he gets nothing for expenses, and the special men do?—A. Yes, that is true.

5813. Q. How much do they get for expenses?—A. That I am not sure.

LORD MERSEY.—Well, really, I must know what this means, because if I shall derive any benefit from the questions and answers, I must know what they mean. Do you mean to suggest that because steamship companies who have regular liners, like the Allan line and the Dominion line, and the Canadian Pacific Railway, do you suggest that because these lines have a practice of paying pilots something which is called expenses, and which is not, as I understand, allowed under the regulations, but which nevertheless they may be able to recover under their contract—are you suggesting that this fact unconsciously biases the evidence of the pilots and induces them to tell the court things that are not true?

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Mr. HAIGHT.—I understand, my Lord, that the height of the pilot's ambition, financial and professional, is to be specially chosen as a pilot by the Canadian Pacific railway.

LORD MERSEY.—But would you answer my question, Mr. Haight? Are you asking this for the purpose of asking us later on to discredit the pilot and to say that he is, by reason of this, unconsciously telling us things that may deceive us?

Mr. HAIGHT.—I am only bringing out this evidence in order that subsequently, when you come to weigh it, my Lord, you will understand that this man is not a disinterested witness, but that he is, to the same extent as any other employee of the Canadian Pacific railway, an interested employee.

LORD MERSEY.—But Mr. Haight, I would point out to you that that explanation applies to every one of the men that are called.

Mr. HAIGHT.—Yes, and I do not wish to leave Pilot Bernier in the position of having impressed the court with the idea that he was a man totally disinterested in the Canadian Pacific railway.

LORD MERSEY.—He is paid for the work he does, and apparently for his expenses.

Chief Justice McLEOD.—Do you think he is in a different position from a Father Point pilot that is taken up by a tramp steamer? That pilot makes the same charge as Captain Bernier.

Mr. HAIGHT.—The duties of navigation are absolutely no different. I quite agree with your Lordship.

Captain WALSH.—My Lord, may I state that I think we can prove that the pilots piloting the coal boats are making as much as is paid to any pilots coming up the St. Lawrence river.

By Mr. Newcombe:

5814. Q. Isn't it true, that you pay pilotage dues to the pilotage authorities, and not to the pilot?—A. As below Quebec, yes.

5815. Q. The fees go to the pilotage commission?—A. Yes.

5816. Q. And they are all divided up between the pilots irrespective of whether the money is earned in piloting a C.P.R. boat or an ordinary tramp steamer?—A. Yes.

By Lord Mersey:

5817. Q. At the end of the season?—A. Yes, so that they do not benefit, that is the point. My Lord, may I show the life-jacket now?

LORD MERSEY.—Yes, but that is not just what I wanted. I mean, I should like you to wrap it up and to tie it in the way in which it is wrapped up and tied in the cabin.—A. Well, they are placed on the racks like that, my Lord.

LORD MERSEY.—No, they are not placed that way. Wrap it up and tie it in the way in which they are placed in the racks.

Chief Justice McLEOD.—Leave it just as a passenger would find it?—A. I think I am right, my Lord, in saying that in the racks that go up on the ceiling that is the way they are put in the cabin rooms.

LORD MERSEY.—It may be so, but certainly when I came across in the *Aquitania* they were folded up in a long roll and then tied.—A. No, my Lord, I think the bedroom stewards or the captain would tell you that they are this way. They are not exactly like this, but are clean and are placed in a rack overhead so that a man in his berth has nothing to do but put his hand up and take it down. The practice might vary just a little in different cases, but I believe that in all cases they are overhead and left in that way.

5818. Q. But the life belts I remember were overhead within arm's reach it is true, that is within arm's reach of a man of the ordinary height, but they were doubled

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up. Just give me that belt please.—A. Yes, my Lord, here it is. That is not one from the ship. That is one of the standard pattern and bears a Board of Trade stamp on it.

By Chief Justice McLeod:

5819. Q. Captain Walsh, are any instructions given to passengers, or are there instructions put up in the state-rooms for passengers to read. It seems to me that for instance a woman in an emergency might not exactly know it was a life-belt or know what to do with it.—A. I do not think it is a general practice, my Lord, to give instructions. I think there are very few people though, really, that don't know how to use them.

But there is an improvement here on this belt in this way, that it has a loop. On the life belts some time ago—Mr. Vaux will probably bear me out in this—both ends were fast. In this case they put it right over and put it through the loop and can bring it right up under the chin, and have it as tight as they like by means of this loop.

5820. Q. How is that fastened, just around the neck?—A. Yes, it comes through here, sir, and you can bring it as high as you like and bring your tapes around and make it fast. Otherwise, if you had a loop, for a tall man it would be all right, and for a short man it would hang away down and be a source of danger rather than of safety.

5821. Q. I don't know, I confess, whether if I got an emergency and saw that I would know what to do with it. I am afraid I scarcely would?—A. This is supposed to be an improvement, sir, it bears the Board of Trade stamp.

By Lord Mersey:

5822. Q. Is this a form of life-belt approved by the Board of Trade?—A. Yes, sir, this stamp simply says: 'Warranted to pass the Board of Trade survey.'

5823. Q. That is put on by the manufacturer?—A. Yes, your Lordship. This is not one of the life-belts from the ship, but there are three coming. The reason I brought this is, that the tapes that are on the three coming down are broken. They were washing about on the shore at Rimouski, and I thought I would bring a complete one, and then also produce the ones that were actually on the ship.

5824. Q. And you have a tape to tie around the waist too?—A. Oh yes, there are two tapes to tie around the waist.

By Chief Justice McLeod:

5825. Q. Are you supposed to tie it yourself or is the steward required?—A. Oh no, you can bring the tapes around and tie them in front.

LORD MERSEY.—Does anyone else desire to ask any questions of Captain Walsh? If not, will you call the next witness?

Mr. NEWCOMBE.—I should like to call the mate of the *Storstad*, who went to Montreal for the scrap log.

Mr. HAIGHT.—Yes, he is here, but may I first put on one of the men who came from the *Empress*, one of the men we were looking for sometime ago, a man named Fournier.

HENRI FOURNIER, coal trimmer, *Empress of Ireland*, sworn.

By Mr. Haight:

5826. Q. Were you a member of the crew of the *Empress* on her last voyage?—A. Yes, sir.

5827. Q. When did you ship on her?—A. The 28th of May.

5828. Q. As what?—A. As a trimmer.

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5829. Q. Where were you as the *Empress* was approaching Father Point on the voyage out?—A. Down below.

5830. Q. Were you on deck at any time as you neared Father Point?—A. Yes, sir, about three-quarters of an hour before.

5831. Q. What had you been doing then?—A. I was on deck to have a smoke.

5832. Q. Where were you when the collision occurred?—A. In my bunk.

5833. Q. Did you feel the jar of the collision?—A. Yes, sir, I thought she grounded.

5834. Q. What did you do?—A. Well I told my mate that shipped on with me at Quebec, a man by the name of Simon Cottle, who belongs in Bristol, England, and I told him I guess she has grounded and he says 'Well, I guess we've struck something or something struck us,' and I grabbed my coat and hat and went right on deck. I was on deck about a minute after the collision.

5835. Q. Whereabouts were your quarters on the ship?—A. Aft, on the port side.

5836. Q. How near the stern was the companion-way that led up on to the deck?—A. Oh I should say about forty feet.

5837. Q. And when you came up on to the deck which way did you turn?—A. I turned to the starboard side.

5838. Q. And how far did you go, to the rail?—A. No, sir, I just went to the stern.

5839. Q. When you went to the starboard side of the *Empress*, did you see anything of the other steamer?—A. Yes, sir, I seen the *Storstad*. I seen her mast lights.

5840. Q. What lights?—A. Her mast lights.

5841. Q. That is the white masthead light?—A. Yes.

5842. Q. Where was that light then?—A. Right opposite the stern.

5843. Q. And which way did that light appear to you to be moving?—A. Sideways, drifting sideways.

5844. Q. Which way?—A. Sideways. Here was the *Empress* here, and the light was going that way.

5845. Q. Well, was the light moving towards your bow or towards your stern?—A. Moving towards the stern.

5846. Q. When you got on the deck and went to the starboard side, did you see the light on your left hand or on your right hand?—A. On my right hand, the starboard side.

5847. Q. But at your left hand or right hand—you don't have a starboard side?—A. My right hand.

5848. Q. Did you see that light shut out by the fog?—A. I just barely distinguished it. It was foggy.

5849. Q. Now after you saw the masthead light of the *Storstad*, what did you do?—A. I went below and put a life-belt on.

5850. Q. Then what did you do?—A. Came on deck again and put the life-belt on, and we were trying to launch the last boat aft on the port side, but we couldn't do it, she was listed too much to the starboard side.

5851. Q. How long did it take you to go down below and get your life-belt on and come up again?—A. Oh I was in a hurry, I should say about a minute.

5852. Q. How long do you think it took you to put on your coat and go up on deck again the first time, when you felt the jar of the collision?—A. I should say about a minute.

Mr. HAIGHT.—That is all.

Mr. ASPINALL.—No questions.

LORD MERSEY.—Mr. Gibsone?

Mr. GIBSON.—No, my Lord.

Mr. HAIGHT.—My Lord, the chief officer of the *Storstad* has been to Montreal and has returned, and he has found some slips.

LORD MERSEY.—Then will you put him into the box, Mr. Haight.

Mr. HAIGHT.—Yes, my Lord.

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TOFTENES, Chief Officer of *Storstad*, recalled.

By Mr. Haight:

5853. Q. Mr. Toftenes, did you return to the *Storstad* last night?—A. I did.

5854. Q. Did you succeed in finding any memoranda connected with your deck log?—A. Yes.

5855. Q. Have you the memoranda?—A. I have them here.

5856. Q. Will you please state whether or not that is the memoranda from which you copied your deck log?—A. It is.

5857. Q. Did you write out the account of the collision on any other scraps of paper or in any other book than the official log and the two sheets you have here?—A. No.

5858. Q. Have these two sheets ever been translated so far as you know?—A. Not that I know of.

5859. Q. Have they ever been submitted to Mr. Griffin or myself or anybody else connected with the case?—A. No, they have been in my keeping all the time.

LORD MERSEY.—I thought you said you had seen these, Mr. Haight.

MR. HAIGHT.—Well, my Lord, I saw in his hands some slips of paper when he was on board the ship. And he said something about having made a memorandum, and it occurred to me that possibly the slips of paper I had seen in his hand might be the memorandum.

LORD MERSEY.—And in that sense you did see them?

MR. HAIGHT.—I saw them as I see them now, my Lord.

LORD MERSEY.—You did not attempt to read them?

MR. HAIGHT.—I did not, my Lord.

LORD MERSEY.—And I dare say if you had you might not have been any wiser, nor should I.

MR. HAIGHT.—I assume they were in Norwegian. I would ask that they be marked as an exhibit I think the number is 18.

LORD MERSEY.—Yes, let them be marked. Will you just let me see them?—A. Yes, my Lord.

(The witness hands the papers marked Exhibit 18 to His Lordship.)

5860. Q. Were these written partly in English and partly in Norwegian?—A. No, every word is Norwegian.

5861. Q. Is it?—A. Yes.

5862. Q. Let me see it again?—A. Yes, my Lord.

5863. Q. Will you please tell me what the word is? (Indicating).

(The witness stepped up to the Bench and spoke to Lord Mersey in an undertone, informing him that the word in question was a Norwegian word and giving him the meaning of it, the remarks in detail being inaudible to the reporter.)

LORD MERSEY.—You must show these documents to Mr. Aspinall, and consider whether it is worth while translating them. I cannot read them.

MR. ASPINALL.—My Lord, what I have had done is this: as we have an interpreter here, and he tells me that the log is precisely the same language as the scraps of paper, save only in this respect, that we find in the log this: "As the other vessel continued ahead", and we do not find those words in the scrap. It is not an important matter, I don't think, but otherwise the two documents are the same. I say it is not an important

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matter, because in the earlier part of the log there is language which suggests that the *Empress* was moving ahead at the time of the collision, so it is not in any way inconsistent with what we find in the earlier part of the log.

Mr. HAIGHT.—And the record may show, Mr. Aspinall, that we are agreed that the original scrap and the official language are to all material purposes identical?

Mr. ASPINALL.—Yes.

LORD MERSEY.—We are talking now about the scrap log?

Mr. ASPINALL.—No, my Lord.

LORD MERSEY.—Well, I think Mr. Haight was.

Mr. HAIGHT.—Yes, I was, my Lord.

LORD MERSEY.—Then you were making a mistake, and Mr. Aspinall was assenting to the mistake.

Mr. ASPINALL.—My Lord, I am being very generous.

Mr. HAIGHT.—As I understand it, then, it is not the desire of the court that these two pieces of paper upon which the first officer made his memoranda, should be translated?

LORD MERSEY.—What I understand, Mr. Haight, is this: that these scraps of paper which we have not had translated, but which we have marked, agree substantially with the scrap log.

Mr. HAIGHT.—With the official deck log, my Lord. This is the draft originally made on two sheets of paper, in pencil, from which the chief officer subsequently copied his story as it stands to-day in the official deck log.

LORD MERSEY.—I don't understand it yet. I thought the things that were coming from Montreal were the bits of paper upon which this gentleman wrote the movements of the ship when the movements were being actually made, and I find that is not so. These scraps of paper are the scraps of paper upon which he wrote at eight or nine o'clock the next morning, the original of what he afterwards put in the scrap log?

Mr. HAIGHT.—Into the official log.

LORD MERSEY.—Very well, and he did put them into the official log.

Mr. HAIGHT.—Yes.

LORD MERSEY.—And then I understand Mr. Aspinall and you to say that the substance of these bits of paper contained what you found in the official log?

Mr. HAIGHT.—With the addition of four words. I will ask to have them marked, and I will not have them translated unless it becomes necessary. That is Exhibit No. 18, I think.

By Mr. Newcombe:

5864. Q. You stated that shortly before the collision you gave the order to port? —A. Yes, sir.

5865. Q. You say you did not give the order hard-a-port? —A. I did not.

5866. Q. When you gave the order to port what did you expect the quartermaster to do with the wheel? —A. To put his wheel towards the starboard side.

5867. Q. How far is he going to put it over? —A. Until I tell him to steady.

5868. Q. Did you tell him to steady? —A. I did not.

5869. Q. Was not he perfectly right in putting the wheel over as far as he did? —A. He was.

5870. Q. LORD MERSEY.—I understand that first he put it over to port and then left it and went away considering that he had executed the order that was given to

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him and that later on, without any further order, he went to it again and put it hard-a-port.

Mr. NEWCOMBE.—As I understand the evidence, the quartermaster was at the wheel and the third officer was overlooking the steering. After getting the order to port the quartermaster ported so many degrees and the ship, as they say, did not answer. Then the third officer standing there took hold of the spokes and turned the wheel hard over.

LORD MERSEY.—That is right, is it not?

Mr. ASPINALL.—Yes, sir.

Witness retired.

Mr. NEWCOMBE.—Call Mr. Whiteside.

WILLIAM JAMES WHITESIDE, Marconi operator, Father Point, sworn.

By Mr. Newcombe:

5871. Q. I think you reside in New York?—A. Father Point.

5872. Q. You have just come from the scene of the wreck?—A. I am the Marconi operator in charge of the station at Father Point.

Mr. NEWCOMBE.—He is not the man we want.

5873. (To witness). Q. You have nothing to do with diving?—A. No.

Mr. NEWCOMBE.—I am sorry, this is not the witness.

Witness retired.

WILLIAM WALLACE WOTHERSPOON, chief of diving operations, sworn.

By Mr. Newcombe:

5874. Q. Have you just come from the scene of the wreck?—A. Yes, sir.

5875. Q. Arrived this morning?—A. Yes, sir.

5876. Q. You have had charge of the diving operations there?—A. Yes, sir.

5877. Q. Most unfortunately, you lost your principal diver there the other day?—A. One of them, yes, sir.

5878. Q. What was his name?—A. Edward Cossaboom.

5879. Q. Had he, under your instructions, gone down and made a survey of the position of the wreck?—A. Yes.

5880. Q. And reported to you what he found?—A. Yes.

5881. Q. Will you give the court such information as you can as to the position of the wreck as it lies under the water there?—A. We went down on the government steamer *Druid* with two moorings on the 7th of June and from a small boat moved with kedge anchors the diver made his first descent. We tried to put him down away from the wreck—that is towards the bilge of the ship and first there was a line put down with a weight on the end of it and he went down on that. The first thing he reported when he came up was that he struck some obstruction, tried to catch it and then passed below it. That was evidently the bilge of the ship. He was taken up and the boat's position was shifted so that it was nearer her load line; he went down again and found the side of the ship aslant—not a very abrupt slant but aslant. He found white work and travelled along that fore and aft and the ship when she was wrecked was roughly speaking inshore. That was all he did that day.

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By Lord Mersey:

5882. Q. That would show that the ship was on her starboard side?—A. Roughly, yes, sir. On the 19th with a small steam schooner rigged for the purpose, and with some naval divers, another examination was made. I presume the officer in charge of the naval divers can best report as to his own men. Our man went down intending to find the stern of the vessel and put a mooring on it so that not only could it be worked from, but the stern of the vessel would be absolutely established. He moved forward—he thought he was moving aft but it is very easy to become twisted—and he worked his way along to what he called the awning which would really be the screening. That is on the promenade deck. Then he worked along aft. He again established in his own mind that the ship had quite an inclination. He then worked up towards the rail of the vessel and found a great lot of raffle, boat falls and so forth. He found a collapsible boat. Then he was ordered up. He made another descent in the afternoon and this time worked aft until he came opposite, or just above, No. 4 hatch and found a suitable place to place this mooring. He brought up a body with him when he came. He made another descent a few minutes afterwards, a chain was passed down to him and he made it fast to the after end of the ship. He then travelled forward and travelled out a little on the rigging and his impression was still that the vessel had quite a slant or slope to her side.

5883. Q. You are talking of the port side of the ship?—A. Yes, sir. Then, next day, when he lost his life, he went forward on the forecastle head. He worked up there with this mooring. It was probably due to the shape of the ship but he was then under the same impression that the vessel's side was by no means flat. When he was on the forecastle head he slid and lost his life. The position of the vessel was then, roughly speaking, north-east and south-west.

By Mr. Newcombe:

5884. Q. Southwest the bow?—A. Northeast the bow.

By Lord Mersey:

5885. Q. The bow north-east?—A. Yes, sir.

5886. Q. That being really the direction in which she was travelling when she was sunk?—A. Yes, my Lord.

By Mr. Newcombe:

5887. Q. And the spars pointing to the shore?—A. Yes.

5888. Q. Was the vessel lying perfectly flat?—A. Not perfectly flat. He had a notion that the vessel sank with the smokestacks almost parallel to the surface of the water. As she sank and was immersed her gravity began to right the ship and she ultimately would have sunk with the spars upright but before that turning movement was complete she struck the bottom. That left a very considerable leverage and it bent down.

5889. Q. What sort of a bottom is there?—A. Soft mud.

5890. Q. Is she deep in the mud?—A. 12 or 15 feet I should think.

5891. Q. Did the diver go over the other side?—A. No, he did not go over the other side. It would be a very hazardous undertaking. He wanted to but I stopped him.

By Mr. Aspinall:

5892. Q. As you get down towards the bed of the river do the currents run very swiftly?—A. There is about a two and a half knot current. They almost run in the same direction and at top and bottom there is always a current.

5893. Q. When you get down towards the bottom the current does not necessarily run in the same way as the current does at the top?—A. Towards the middle of the flood or ebb it probably runs the same way top and bottom but as the tide changes it changes on the top first.

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5894. Q. Then a vessel sinking might have its heading affected?—A. Yes, sir, very possibly.

By Mr. Haight:

5895. Q. Have you ever, Mr. Wotherspoon, done any diving in that vicinity before this incident?—A. Yes, 40 or 50 miles from there.

5896. Q. Would the tidal conditions where you did your diving be similar to those off Father Point or would they differ very considerably?—A. They were of the same character.

5897. Q. At what stage of the tide would you say that the total movement of the water on the surface and at the bottom would all be in the same direction?—A. The middle of the flood or the middle of the ebb.

5898. Q. Explain how far each way?—A. That would be pretty hard to say.

5899. Q. Assuming that low water on the night in question was a few minutes after ten and that high water occurred about four, that would mean that the exact middle of the flood movement would come at one o'clock?—A. I am afraid that you will have to repeat; I cannot get your point.

5900. Q. According to my understanding the tide table shows that at Father Point on the night of this disaster it was low water about 10 p.m. and high water about 4?—A. a.m.

5901. Q. A.M. I think it was fifteen or twenty minutes past four. Do I understand that at one o'clock or thereabouts the movement of water in the river would be the same both at the top and the bottom?—A. It would be most apt to be the same at that time. Of course, there is an eddy at that point. The shore forms a sort of sweep at that point and the tide does not run directly up and down the river.

5902. Q. When you get four or five miles off from Father Point?—A. At that particular point of the river—I should perhaps have said before—the current does not seem to run directly up and down the river.

5903. Q. Where does it seem to set?—A. After flood tide it seems to swing towards shore and after ebb tide from shore.

5904. Q. Where will your buoys be facing on a flood tide? Will they tend to float towards the shore?—A. Yes, sir.

5905. Q. Would it be approximately right to say at right angles to the shore?—A. Not as much of an angle as that; a lesser degree than a right angle.

5906. Q. As I see the chart the north line magnetic is almost at right angles. Would the current tend to drive these buoys to the southeast?—A. That is downstream.

5907. Q. There (referring to chart) is Cock Point, there is Rimouski and there is Father Point. —A. (The chart having been placed in witness' hands.) With flood tide it would sweep in that way; it would head like that (indicating).

5908. Q. Can you tell us in which direction your buoys would drive if you cut them loose; would they go southeast or——?—A. With flood tide they would drive off to the south. That would be their trend—not exactly.

5909. Q. How many feet of water covered the port side of the steamer?—A. At low water about 75 feet.

5910. Q. So that in any event, if the vessel were sinking very rapidly there would not be time after she left the surface for her to alter her position before she touched the bottom?—A. Just before a ship of that size touched bottom the tide would have a very strong effect upon her.

5911. Q. It is impossible to tell which way she would swing?—A. No, I think she would swing her stern towards shore. If she occupied a certain position at the surface I should think it would swing her stern in or her bow out.

5913. Q. Do you think that there are conditions below that are entirely different from those on the surface?—A. Yes, it depends on certain stages of the tide.

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5914. Q. Do you think the conditions are radically different below from what they are on the surface three and a half to four hours after high water?—A. Then there is a considerable difference.

5915. Q. The tendency would be, as I understand you, Mr. Wotherspoon, at the middle of the tidal movement, to have the water conditions at the surface and the bottom the same?—A. They are more apt to be the same then than at any other time.

5916. Q. Is it not true that the current of the river actually overcomes the inflowing of the tide?—A. Do you mean at the flood? The flood is not as strong as the ebb.

5917. Q. Is it not true that while there is the difference of low water and high water the real difference of the tidal movement is merely that the current is stronger on the ebb and weaker on the flood and is always out towards the St. Lawrence Gulf?—A. No, sir.

5918. Q. The charts that I have all seem to indicate that to be the fact. (Referring to American chart.) As I read the chart the entry towards the middle of the river, immediately off Rimouski, reads 'current $1\frac{1}{2}$ to $2\frac{1}{2}$ knots always down.'—A. The chart may be right but our experience in wrecking would not seem to indicate quite that.

5919. Q. Off Metis Point, about 5 or 6 miles farther on there is another entry, 'currents $1\frac{1}{2}$ to 2 knots indicated down.'—A. No answer.

5920. Q. Will you please state at what precise points these two moorings are made fast?—A. One of them is made fast directly to the stern. The other one was directly at the after end of No. 4 hatch.

5921. Q. He did not get over on the deck?—A. Yes, sir.

5922. Q. Did he get down on the deck to the hatch combing?—A. No, not so far inboard; it was nearer the rail than that.

5923. Q. It is fastened to the rail?—A. No, sir, inboard of the rail as I understand.

5924. Q. Fastened to No. 4 hatch.—A. At the after end of No. 4 hatch.

5925. Q. And the forward bow?—A. The forward bow was not made fast by him but he was fastening it and a chain was put down to the forecastle head and one of the jib stays was made fast.

5926. Q. These two buoys are made fast to the same deck of the ship?—A. Yes, sir.

5927. Q. What is the line of these buoys when they are in a normal position—northeast?—A. Northeast to southwest, by compass; it might differ a little.

5928. Q. The bow heads northeast and the stern southwest?—A. Yes, sir.

5929. Q. I do not suppose any of the divers have been to the extreme stern?—A. This man was to the extreme stern.

5930. Q. Did he report as to how he found the rudder?—A. No, sir, he did not go as far as that.

5931. Q. Are you continuing your diving work?—A. Yes, sir.

Mr. HAIGHT.—If there is time to recall the witness I would like to know how her rudder is set. (To witness).

5932. Q. When will the next descent be made?—A. Probably the day after tomorrow. We are getting other divers.

LORD MERSEY.—Mr. Haight, I have listened to these questions and I have tried to follow them as I have no doubt my colleagues have; what is this evidence supposed to establish?

Mr. HAIGHT.—That the vessel which was lost is pointing N 45 degrees E.

LORD MERSEY.—That we have heard several times and the stern is pointing exactly the other way. What else, Mr. Haight?

Mr. HAIGHT.—N. 45 degrees E. is practically the angle at which we say she was heading when she hit us.

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LORD MERSEY.—It establishes that the stem is pointing northeast and the stern is pointing southwest. You have asked a great many questions.

Mr. HAIGHT.—Because Mr. Aspinall, noticing at once that the vessel was pointing northeast and not southeast, as Captain Kendall has said, quite properly asked if there could not be some currents that really would have changed her heading so that the position she now lies in is absolutely no indication as to how she pointed.

LORD MERSEY.—What does he say to that?

Mr. HAIGHT.—He says there may be some currents. He says that he found some current there and the court will decide—

LORD MERSEY.—Sometimes he made that sort of a sign and then he made another sort of a sign.

Mr. HAIGHT.—If the court thinks that it is the pivot point of this case—that is, as to how these boats were heading—if we are going to have any real evidence as to tidal conditions, I think that government surveyors should place buoys and scientifically measure the movements of the currents at the same periods of the tides at this point. It can be done and is done every day.

LORD MERSEY.—I shall leave the government to make up its mind about that.

By Mr. Newcombe:

5933. Q. Having regard to the information which you have about wrecking, do you think it will be possible, in connection with your operations, to get an actual description of the damage that was caused by the collision?—A. I very much doubt it. This man was very anxious to try and work under the side, but I think it would be a very hazardous and perhaps impossible undertaking. While the rail may be above the mudline I think the injury would be covered by mud.

5934. Q. As to raising the ship, that is impossible?—A. In my opinion, that is impossible.

By Mr. Haight:

5935. Q. At what period of the tide can your work be done with the greatest safety?—A. Flood tide is best but they have gone down at all stages of the tide. Of course, slack water is what we try to have but we have to work at every stage of the tide.

5936. Q. You find that there is less current observable at flood tide than at any other period of the tide?—A. No, at slack water.

LORD MERSEY.—In slack water the current is less?

Mr. HAIGHT.—I would like to find out what the diver's experience is as to going down. (To witness):

5937. Q. Will you tell us the stage once more that you find best during the entire period of the ebb and flow time?—A. We find it best at slack, high and low water.

5938. Q. If you are diving on a tide at flood it makes less trouble than on an ebb tide?—A. Yes, sir.

CHIEF JUSTICE McLEOD.—Did I understand you to say that the vessel lies in the same position as that in which she was when she was struck?

Mr. HAIGHT.—I say that the angle which everybody admits was the angle when we were heading west by south places her heading very nearly northeast.

By Lord Mersey:

5939. Q. Was your diver able to ascertain whether any of the ports were shut?—A. Some of the upper ports have been found open.

5940. Q. What ports were those?—A. The diver would describe them as being on the white work; that would be on the promenade deck, and so on.

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By Chief Justice McLeod:

5941. Q. Were there any open in the cabins?—A. Yes, sir, there were some cabin ports open—not many.

Witness retired.

CAPT. J. B. BELANGER, Master of Government steamer *Eureka*, sworn.

By Mr. Newcombe:

5942. Captain Belanger, you are master of the Canadian Government steamer *Eureka*?—A. Yes, sir.

5943. Q. You were in charge of that vessel on the night of the sinking of the *Empress of Ireland*?—A. Yes, sir.

5944. Q. Did you take a pilot off from the *Empress of Ireland*?—A. Yes, sir.

5945. Q. Can you state the time when you took off the pilot?—A. Yes, sir; it was at 1.30.

5946. Q. Eastern standard time?—A. I think so; that is my ship's time.

5947. Q. Precisely where was it that you took the pilot off?—A. Just about abreast of the Father Point wharf—a little west of it.

5948. Q. Is that the closest description you can give me—a little to the westward of Father Point wharf?—A. About a mile and a half.

5949. Q. And a little to the westward?—A. A little to the westward.

5950. Q. You did not take any bearings or observation of the place?—A. No.

5951. Q. But you think that is as accurate as it can be stated?—A. Yes.

5952. Q. At 1.30?—A. Yes, as shown by the extract from the log.

5953. Q. After that where did you go?—A. I was just waiting for the *Wabana*.

5954. Q. Coming down?—A. Coming down behind the *Empress*.

5955. Q. She was coming down with a pilot, too?—A. Yes, she had a pilot on board and I was to take him off.

5956. Q. What sort of a vessel is the *Wabana*?—A. A collier.

5957. Q. A steamer?—A. A steamer.

5958. Q. Did you take her pilot off?—A. Yes, sir.

5959. Q. At the same place?—A. About the same place.

5960. Q. At what time?—A. At 2.10.

5961. Q. And then did you go back to—?—A. To the wharf at 2.20.

5962. Q. That is the wharf at Father Point?—A. Yes, the Father Point wharf.

5963. Q. Did you get a message there in regard to the accident?—A. Yes, sir.

5964. Q. At what time?—A. I just had touched the wharf at 2.20—about 2.25 I was just touching the wharf—by telephone.

5965. Q. By telephone from Mr. Whiteside?—A. Mr. Whiteside and Mr. McWilliams.

5966. Q. They gave you the information that the *Empress* was sinking?—A. Yes, rush.

5967. Q. What did you do?—A. I rushed instantly without any delay—about two minutes.

5968. Q. How long did it take you to reach the wreck?—A. From 40 to 45 minutes.

5969. Q. What did you find there?—A. I found the *Empress* sunk, disappeared, and I found the *Storstad* on the south part of the wreckage and heading south.

5970. Q. The *Storstad* lying there with her boats?—A. The boats were out; I saw boats there.

5971. Q. Did you see wreckage?—A. I saw wreckage and many bodies.

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5972. Q. And people floating in the water?—A. Yes, dead bodies and live bodies; also, which I saved.

5973. Q. Did you put your boats down and go to the rescue?—A. I took the people out of the first boat of the *Empress*; there were three boats there.

5974. Q. You did everything possible—A. Everything.

5975. Q. To alleviate the sufferings of the survivors?—A. Yes.

5976. Q. A number of them came aboard of your ship?—A. About 150.

5977. Q. About 150 survivors?—A. Yes; and some died aboard—about 10.

5978. Q. You took them to Rimouski?—A. I touched at Father Point in passing to know if there were any doctors there and as there were no doctors I went instantly to Rimouski wharf.

5979. Q. How many trips did you make?—A. Three.

5980. Q. You landed these 350 people and went back again twice?—A. Twice afterwards.

5981. Q. The officers and crew did everything possible to save life and assist survivors?—A. Yes.

5982. Q. Were there pilots also on your ship?—A. Yes, I had four of them.

5983. Q. And they lent their assistance?—A. Yes; if you want to know the names I can give them to you.

5984. Q. On the second trip you made did you rescue any living people?—A. No, sir; when I left there were no living people in sight.

5985. Q. When you left on the first occasion?—A. Yes, sir.

5986. Q. And you found some property, too?—A. Yes, sir.

5987. Q. While you were waiting for the *Wabana* to take off her pilot at 2.10, did you hear any whistles from the vicinity of the *Empress of Ireland*?—A. Yes, sir.

5988. Q. That was when you were?—A. When I was waiting off Father Point for the *Wabana*.

5989. Q. What whistling did you hear, Captain Belanger?—A. First, one long blast, next two short blasts, and, third, three short blasts.

5990. Q. Did you know whether these blasts were from the same whistle?—A. I cannot swear to the first one but the two second ones I can nearly swear that it was from the *Empress*.

5991. Q. The first long blast you are not sure of, but the others you are quite satisfied came from the *Empress*?—A. I might mistake, but I am nearly sure that it was the whistle of the *Empress*.

5992. Q. Can you give the time of that whistle?—A. Just about five minutes before I got aboard the *Wabana*.

5993. Q. That would be about five minutes past two?—A. Yes.

5994. Q. May I ask you if you brought your log which you have on the *Eureka*?—A. No, sir.

5995. Q. In this statement, which I have signed by you, you say 'I am writing that by the extract from the log of the *Eureka* entered by second officer Caron on the 29th of May, 1914,' and you say that certain things happened at certain times. Is that correct?—A. Yes.

5996. Q. Is this a true copy of the entries in your log?—A. Yes, that is a true copy; I will swear to it.

Mr. NEWCOMBE.—If you want to cross-examine, Mr. Haight, here is a copy of the entries (copies of entries handed to Mr. Haight and Mr. Aspinall).

Mr. MEREDITH.—Did he (the witness) enter up this log?

Mr. NEWCOMBE.—No, the entries were made by Caron, his second officer.

By Mr. Aspinall:

5997. Q. When you heard the whistles below you in the river you were then awaiting this collier, the *Wabana*?—A. Yes, sir.

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5998. Q. And in that time your vessel was about a mile above Father Point?—
A. Which boat?

5999. Q. The boat in which you were—that was about a mile above Father Point?
A. Yes.

6000. Q. And the collision happened somewhere between 6 and 7 miles below Father Point?—A. Yes.

6001. Q. So that at this rate, the distance between you and these two ships when you were hearing the whistles was somewhere between 7 and 8 miles?—A. Yes, sir.

By Mr. Haight:

6002. Q. What is the time that you kept on the ship, Captain Belanger?—A. Quebec time.

6003. Q. Is that corrected from time to time or do you just keep winding the clock?—A. Every morning, sir, by the report from Mr. McWilliams.

6004. Q. Who is Mr. McWilliams?—A. The steamship's agent at Father Point.

6005. Do you get it over a telegraph wire?—A. He gets it from the telegraph wire himself and he gives it to me by telephone.

6006. Q. According to your belief, the time on the *Eureka* is standard time?—
A. It must be standard time, I suppose, but I just take it from Mr. McWilliams. I do not know if it may be a few minutes out. There may be a little change of time during the 24 hours as it is not chronometer time.

6007. Q. When you get Mr. McWilliams' report, if you find that there is any variation in your clock, do you set your clock right?—A. When I received notice of the accident I did not go to the watch to see if the watch was keeping correct time.

6008. Q. Each morning, when you get the correct time from Mr. McWilliams, you go to your clock and if your clock differs you correct it?—A. Yes, sir.

6009. Q. How much correction do you usually have to make; do you have to make a correction every morning?—A. Yes, every morning when there is correction to be done.

6010. Q. Did you get the time yesterday morning?—A. Yes. Sometimes they may lose a second or half a minute, or one minute, or perhaps more.

6011. Q. Then your clock will lose more than a minute in a day?—A. I do not take special note of it. A chronometer is another thing, but our clock is a good clock and it does not vary much more than two minutes.

6012. Q. The clock is a good clock?—A. Yes, first class.

6013. Q. Do you enter in the log the times when you take off and put on pilots to the various vessels?—A. Yes, sir

6014. Q. As I understand you, you did enter in the log the time you took pilot Bernier off from the *Empress*?—A. He is entered at 1.30. It is in the statement at 1.30. We enter it not only for pilot Bernier but for all. As soon as the pilot is aboard we enter all pilots and all passengers also.

6015. Q. How close were you to the *Empress*?—A. Alongside of the *Empress* when we took the pilot off.

6016. Q. You actually had a line to the *Empress* when pilot Bernier came over the rail on your deck?—A. A line?

6017. Q. You were made fast to her?—A. No.

6018. Q. You were actually touching?—A. We were touching.

6019. Q. And Captain Bernier came over your ladder and stepped on your deck?
—A. Yes.

6020. Q. You entered the exact time he stepped aboard?—A. Yes.

6021. Q. Did you take that time from your *Eureka* clock or watch?—A. Yes, by the *Eureka* clock; the second officer took it especially for that purpose and he was writing the log book.

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6022. Q. As I understand you, when pilot Bernier came on deck you were abreast of Father Point or perhaps a little west of it?—A. Nearly abreast of it.

6023. Q. By abreast you mean that Father Point was a little to the south of you?—A. I mean abreast of Father Point wharf, north of Father Point wharf. Father Point wharf is heading north about 5 degrees west.

6024. Q. A line drawn from your boat to Father Point wharf would have been approximately south?—A. From Father Point wharf it would be south from my—

6025. Q. If you drew a line from your boat out in the water to the Father Point wharf at the time you took off the pilot it would have been approximately south?—A. South, yes.

6026. Q. As soon as Bernier came aboard the *Eureka* did the *Empress* start ahead?—A. Yes.

6027. Q. About what is the speed of your boat?—A. From 9½ to 10.

6028. Q. She is a converted tug?—A. Yes, a converted tug.

6029. Q. How long have you been master of the *Eureka*?—A. Four years.

6030. Q. Are you familiar with the sound of the whistles of the big boats that are regularly navigating the river?—A. Yes, I was quite aware of the sound of the *Empress*.

6031. Q. Could you recognize the *Empress* whistle when you heard it?—A. Yes.

6032. Q. Did the three signals which you heard sound as if they came from the same ship?—A. I cannot say that the first one was because at the time of the first blow I was looking for the *Wabana*, I heard that one and I just took it to be the noise but I cannot swear that it was from the *Empress*. The two second ones I am nearly in a position to swear they came from the *Empress*.

6033. Q. You testified before the coroner at Rimouski, did you not?—A. Yes.

6034. Q. According to my best ability in the translation of French, as I understand your testimony, you say that you heard the whistles of two steamers, first, that the *Empress* had blown one blast and that the *Storstad* had responded. Is that correct?—A. I do not think that is correct. They misunderstood that; I cannot recognize the whistle of the *Storstad*. It is a new boat on that line.

6035. Q. You continue 'Then the *Empress* gave three short blasts signifying full speed astern. The *Storstad* gave two blasts intending to say that the engines had been stopped but that the steamer was moving under control. After the three blasts of the *Empress* the other gave no answer to my knowledge.' Is that not the testimony you gave before the coroner?—A. I do not think he has been very well understood.

By Lord Mersey:

6036. Q. You do not think what?—A. That he has not been very well understood.

6037. Q. That the coroner did not very well understand what you were saying?—A. Yes, sir.

MR. HAIGHT.—Have you, Mr. Newcombe, a copy of the coroner's minutes?

LORD MERSEY.—He ought not to have. (To witness):—

6038. Q. Have you a copy of what the coroner wrote?—A. (Witness) No, sir.

By Mr. Haight:

6039. Q. Did you, Capt. Bélanger, hear any whistles from the other steamer, or from another steamer, sounded in the vicinity of the *Empress*?—A. No, sir; I heard only these whistles and they sounded east.

6040. Q. You believe that all three whistles you heard came from the *Empress*?—A. No, sir; I say the two last ones; the first one I cannot swear to.

6041. Q. Is it your best judgment, although you will not be positive; that all three whistles were blown by one boat?—A. I am not positive of the first one.

6042. Q. I know you are not positive but what do you think?—A. I do not think.
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6043. Q. I quite understand that you do not think and I quite understand that you do not feel able to state positively what boat blew the first signal of one blast. I do not ask you to say positively. Give me your best judgment. Do you think it was? The court will allow you to say what you think.—A. I think it was the first—

By Chief Justice McLeod:

6044. Q. What did you think at the time you heard the whistle?—A. It was about five minutes before.

6045. Q. What boat did you think it was then?—A. I might have thought it was just the same whistle as the *Empress* but I am not sure.

By Lord Mersey:

6046. Q. To whom, Capt. Belanger, did you address this statement (referring to a typewritten statement which had been handed to his Lordship)?—A. I sent it to Captain Lindsay. I sent a report; the minister asked me for a report.

6047. Q. Who is Captain Lindsay?—A.—

MR. NEWCOMBE.—He is the officer who was directed to make the preliminary inquiries.

By Lord Mersey:

6048. Q. You were invited to send it to him and you sent it to him?—A. I sent it to him. The last one was sent to the deputy minister.

6049. Q. Did you send a statement before you sent this one?—A. Is that the last one?

6050. Q. This is apparently a second statement because you say: 'I omitted to state in my former written statement,' etc.—A. This last one has been given to the deputy minister, Mr. Johnston, by me this morning.

6051. Q. This one?—A. This one.

6052. Q. When did you write it?—A. Yesterday.

6053. Q. You sent one, you say, previously to Mr. Lindsay?—A. Mr. Lindsay—Captain Lindsay of the Marine and Fisheries Department.

6054. Q. When did you send that?—A. It must be dated.

LORD MERSEY.—Have you got it, Mr. Newcombe? Will you show it to me?

MR. NEWCOMBE.—I have not got it; Mr. Johnston may have it; he is not here at the moment. This is a statement of the 13th of June that we have here.

By Lord Mersey:

6055. Q. This statement, I see, is dated the 13th of June; I refer to the statement in my hand. I understand the witness to say that he wrote it yesterday?—A. I wrote the last paragraph yesterday.

LORD MERSEY.—Have you the letter that he sent to Mr. Lindsay?

MR. NEWCOMBE.—I have not. I thought this was the letter. Mr. Johnston may have it, but he is not in Court.

WITNESS.—The Deputy Minister got this one this morning (referring to typewritten statement handed to him by Mr. Newcombe). I just put in what was omitted.

MR. NEWCOMBE.—I have sent for Mr. Johnston and if there is another statement—

LORD MERSEY.—Where is Mr. Johnston?

MR. NEWCOMBE.—He is out of the Court room at the moment; I do not think he is far away.

(Mr. Johnston having entered the room.)

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LORD MERSEY.—Mr. Johnston, it is said that you received a letter from this witness in reference to the *Eureka*; did you?

MR. JOHNSTON.—Yes, my Lord.

LORD MERSEY.—Will you show it to me?

MR. JOHNSTON.—It is among the various papers. It is an exact copy of this (referring to typewritten document), with the exception that in the later one he added a paragraph.

LORD MERSEY.—I want to know how the exception came to be added.

MR. JOHNSTON.—Capt. Belanger will have to explain that.

By Lord Mersey:

6056. Q. Mr. Belanger, will you follow carefully what I say?—A. Yes, sir.

6057. Q. And see whether it is right. Did you, on the 13th of June, write a report and send it to Mr. Lindsay?—A. Yes, sir.

6058. Q. That is the 13th of June?—A. Yes, sir.

6059. Q. That report which you sent to Mr. Lindsay was sent in consequence of Mr. Lindsay asking you to send it?—A. Yes.

6060. Q. Did Capt. Lindsay ask you to send it by sending you a letter?—A. Yes, sir.

6061. Q. Have you that letter?—A. I have not that letter.

6062. Q. Where is it?—A. I do not remember whether it was by letter or verbally.

6063. Q. You do not know whether he asked you by letter or verbally?—A. Yes.

6064. Q. But he did ask you, and in consequence you wrote a letter, dated the 13th June?—A. Yes.

6065. Q. That letter you wrote on the 13th of June contained no reference whatever to whistles?—A. No, sir.

6066. Q. It had nothing at all about whistles?—A. No answer.

6067. Q. Now, you hand to me what purports to be a copy of a letter dated the 13th June, and the copy has a paragraph in it setting out the whistles you heard which paragraph you inserted in the copy that you made yesterday?—A. Yes.

6068. Q. And the reference to the whistles therefore was made for the first time yesterday in writing by you?—A. Yes.

6069. Q. Where did you send that letter with the additional paragraph in it to?—A. I brought that letter up to the Deputy Minister, Mr. Johnston, this morning.

LORD MERSEY.—Now, Mr. Newcombe, may I ask you to assist me? This document which you have handed up to me and which I understood at first was a copy of a letter written by this gentleman is not a copy of that letter?

MR. NEWCOMBE.—So it would appear.

LORD MERSEY.—It is a copy of a letter written by him up to a certain point and then it is something which he himself added yesterday.

MR. NEWCOMBE.—Yes.

LORD MERSEY.—The letter itself having been written more than a week ago.

MR. NEWCOMBE.—That would seem to be so.

By Lord Mersey:

6071. Q. The added paragraph which you put in yesterday is this: 'I omitted to state in my former written statement'—that is the statement that you sent to Captain Lindsay?—A. Yes, sir.

6072. Q. '—that just before the *Wabana* was boarded at 2.10 a.m. on the 29th May, I heard distinctly whistle signals.' You wrote that in yesterday?—A. Yes, sir.

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6073. Q. Have you any written record of the whistle signals that you did hear on the 29th of May?—A. No, I did not keep any record.

6074. Q. There was no record of them or reference to them in the log of the *Eureka*?—A. No, sir, not in the log of the *Eureka*. The second officer did not hear those whistles.

6075. Q. I want to understand about that. Who kept the log of the *Eureka*?—A. The second officer.

6076. Q. What is his name?—A. Amedee Caron.

6077. Q. Where was he at the time, you say you heard these whistles?—A. He was in his room perhaps; I cannot recollect sure.

6078. Q. On the same ship you were on—the *Eureka*?—A. Yes, sir.

6079. Q. Might he have heard the whistles?—A. He might have heard the whistles because I just made the remark to my quarter-master that the whistles sounded as if there was something wrong.

6080. Q. I am going to ask you about that in a moment. If the second officer of the *Eureka* heard such whistles would it be his duty to enter them in the log?—A. Yes.

6081. Q. But he did not enter them?—A. It is not necessary to enter them in the log book regularly.

6082. Q. What you want to say is that he might have entered them in the log book but he was not obliged to?—A. No, sir.

6083. Q. Anyway, he did not enter them?—A. No, sir.

6084. Q. You did not write them down anywhere?—A. No, sir.

6085. Q. Apparently you gave evidence before the coroner?—A. Yes, sir.

6086. Q. Mr. Haight has read to us what he says is a translation of what you said before the coroner?—A. Yes.

6087. Q. I should like to have a copy of that. When did you give your evidence before the coroner?—A. (No answer.)

MR. HAIGHT.—(Handing typewritten document to his Lordship.) The portion I read, my Lord, is underlined.

By Lord Mersey:

6088. Q. When did you give your evidence before the coroner?—A. (No. answer.)

LORD MERSEY.—This note, I suppose, Mr. Haight, is dated?

MR. HAIGHT.—I do not remember. The inquest at Rimouski was two or three days after the catastrophe.

LORD MERSEY.—This is the inquest at Rimouski, but it has no date to it.

MR. HAIGHT.—It was the following Saturday after the collision.

LORD MERSEY.—What was the day of the week on which the collision occurred?

MR. HAIGHT.—Friday.

LORD MERSEY.—Do you mean to say that the inquest was begun next day?

MR. HAIGHT.—So I understand.

LORD MERSEY.—That is rather odd; they must be very quick.

MR. HAIGHT.—Captain Kendall was there, he testified, and he knows.

LORD MERSEY.—Captain, when was this inquest?

Captain KENDALL.—On the following day—Saturday.

LORD MERSEY.—The collision was in the early morning of Friday, and the coroner sat on Saturday next?

Captain KENDALL.—Yes.

LORD MERSEY.—When did he sit?

Captain KENDALL.—At 11 a.m.

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LORD MERSEY.—He only examined a few witnesses and then adjourned?

Captain KENDALL.—Till two.

LORD MERSEY.—Had he completed the inquest?

Captain KENDALL.—No.

By Lord Mersey:

6089. Q. Let me see what you said before the coroner according to the coroner's notes. You think that the coroner is not very accurate?—A. (The witness) I think there is some misunderstanding.

Mr. NEWCOMBE.—I have a certified copy of the depositions. I do not know whether your Lordship has a certified copy or not.

LORD MERSEY.—I suppose it is the same as this.

Mr. NEWCOMBE.—Very likely.

LORD MERSEY.—Now, let us see what Captain Bélanger said. This is what the coroner has taken down:—

‘A notre retour de notre premier voyage, le *Storstad* avait laissé la Pointe au Père. J'ai entendu les cris des deux bateaux. D'abord l'*Empress* a sifflé un coup, l'autre, le *Storstad*, a répondu.’

6090. Q. Is that right?—A. I don't—

6091. Q. Perhaps you do not understand my French?—A. Your French is first-class. I think there is some mistake in that.

‘Ensuite l'*Empress* a donné trois cris, signifiant: toute vitesse arrière. Le *Storstad* avant avait donné deux cris voulant dire que ses machines étaient arrêtées, mais que le bateau avançait, pouvait se gouverner. Après les trois cris de l'*Empress*, l'autre n'a pas donné de réponse, à ma connaissance.’

6092. Q. Are we to understand that you think that the coroner has misunderstood what you were saying?—A. That is my idea, all right.

6093. Q. And that what is taken down is not what you said?—A. No, sir, that is not what I intended to say.

6094. Q. My colleague the Chief Justice tells me that there was no shorthand writer there and that the coroner himself wrote it all in long hand.

(Here several questions were put to the witness by Sir Adolphe Routhier, in French, in reference to his deposition before the coroner at Rimouski.)

By Lord Mersey:

6095. Q. I have only one other question to ask you: When you heard these whistles, whatever they were, you seem to have said to the second mate—is that the man who was in the cabin?—A. He was the quartermaster; he was at the wheel.

6096. Q. You said to the quartermaster at the wheel: there is trouble down there?—A. Yes.

6097. Q. How soon after this was it that you were told to put out?—A. It was about when we heard those last whistles—it was about five minutes before that we boarded the *Wabana*, and we boarded the *Wabana* at 2.10. Just after that we came back to the wharf at Father Point, about—where is the log book? Will you give me the time when I got to the wharf?

(Log book handed to witness.)

By Lord Mersey:

6098. Q. You need not trouble, M. Belanger, because we can find it in the log.—A. 2.20 at wharf.

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By Mr. Newcombe:

6099. Q. 2.30 left the wharf for the *Empress of Ireland*?—A. 2.30, yes.

6100. Q. Can you give us any idea where the *Wabana* was at the moment of the catastrophe?—A. The *Wabana* when the accident happened was, I think, a little below Father Point wharf. At 2.05 I heard these first blasts before the *Wabana* was there and at 2.10 the *Wabana* passed Father Point wharf.

6101. Q. Then the *Wabana*——?—A. The *Wabana* at the time, she should be abreast of Father Point wharf.

6102. Q. At the time of the collision the *Wabana* was just at Father Point?—A. Yes, not at the wharf, but abreast of the wharf.

By Mr. Haight:

6103. Q. Did the coroner himself write out the answers which you gave to his questions the day after the accident?—A. I can't swear it, sir.

6104. Q. Do you know how the notes were taken?

LORD MERSEY.—He said they were taken in long hand by the coroner.

The WITNESS.—Yes.

LORD MERSEY.—Is it usual in your courts to cross-examine the witness upon questions put from the bench?

MR. HAIGHT.—It is not unusual, my Lord, to follow up the points which are raised; I have even known of exceptions being taken to questions asked by the bench.

LORD MERSEY.—Who does that?

MR. HAIGHT.—I have known of cases where such exceptions were sustained by the presiding judge.

LORD MERSEY.—I have never heard of such a thing. Let us not have the same thing three or four times; if you cross-examine this witness—and I am not going to stop you—try to keep the thing in some sort of order, and see if you can exhaust your examination once for all.

MR. HAIGHT.—Your Lordship raises points that have not occurred to me, and I sometimes like to follow them. As far as I understand, this man signed his deposition before the coroner after it was written out.

LORD MERSEY.—I have no doubt he did.

MR. HAIGHT.—I should like to know who wrote it and if he signed it.

Chief Justice MCLEOD.—In such examinations the ordinary rule is that the witness has his evidence read over to him at the time.

MR. HAIGHT.—I wanted to see if that was actually done in this case.

By Mr. Haight:

Q. Is it not true that the coroner wrote out the minutes of your evidence and read his written statement to you, and that you signed it?—A. I don't remember if he wrote himself; there were two there.

By Chief Justice McLeod:

6105. Q. Was it read over to you before you signed it?—A. I sure think so, yes.

6106. Q. And you did sign it?—A. I signed it, I suppose.

Witness discharged.

BELANGER.

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CAPTAIN KENDALL, SS. *Empress of Ireland*, recalled.

Examined by Mr. Newcombe:

6107. Q. You recognize this book of regulations?—(Book shown to witness).—A. I do.

6108. Q. No. 254, regarding the chief steward, says that the saloon and passenger compartments are never to be left from 6 a.m. to 11 p.m. without a steward in attendance; and that from 11 p.m. to 6 a.m. night stewards must be in attendance.—A. That is correct.

6109. Q. Can you state whether on the night of the accident night stewards were in attendance at these compartments?—A. I cannot exactly, but a report is made every half hour to the bridge by the steward on watch that all is correct below.

6110. Q. And you received these reports?—A. The officer received that report on the bridge.

6111. Q. Up to the last half hour before the collision?—A. Yes.

6112. Q. Is it possible that the doors leading to the decks from the second class lounge could have been locked?—A. It is not possible.

6113. Q. Are they ever locked on board the ship?—A. Never locked, no.

6114. Q. What would you say with regard to the statement that the second class lounge was full of women and children; there must have been 300; that only one man was there and that between them they could not burst open the locked doors leading to the decks?—A. The doors are never locked. There is no need to lock the doors; there is no reason.

6115. Q. Is there, to your knowledge, any foundation whatever for such statement?—A. There is no foundation whatever; these doors open out and not in.

By Chief Justice McLeod:

6116. Q. They are never locked?—A. They are never locked, never.

By Mr. Newcombe:

6117. Q. Who would be the officer to confirm your statement, the chief steward?—A. The chief steward would confirm my statement.

6118. Q. Would he be the officer immediately in charge of these compartments?—A. Yes. I may say that when a collision occurs and a ship gets on her side as much as this ship has done, the strain becomes so great on the decks that the doors of cabins as well as companionways are likely to be jammed with the frame work coming together—the pressure.

By Chief Justice McLeod:

6119. Q. If they were shut at the time of the collision, then, there would be difficulty in opening them?—A. Yes, that is likely to occur.

By Mr. Newcombe:

6120. Q. Can you tell me whether your water ballast tanks were full or empty when you sailed?—A. They were full when leaving Quebec; 776 tons of water.

By Chief Justice McLeod:

6121. Q. You are quite clear, are you, captain, that the doors were not locked?—A. I am quite clear that the doors were not locked, my Lord.

6122. Q. Do you know anything about the number of people that were in that compartment?—A. I couldn't say, but in the ladies' compartments that Mr. Newcombe speaks of—350, I think he said—

Mr. NEWCOMBE.—300.

The WITNESS.—I doubt if it is possible to get 50 in altogether.

KENDALL.

By Chief Justice McLeod:

6123. Q. 300 then, could not get in?—A. You couldn't put 50 in, if you packed them in.

Witness retired.

AUGUSTUS GAADE, recalled.

Examined by Mr. Newcombe:

6124. Q. You have already been sworn and have given testimony?—A. I have, sir.

6125. Q. Do you know whether there were any stewards in attendance at the second-class lounge on the night of the accident?—A. Not exactly at the lounge; there are three night watchmen for the second-class compartment.

6126. Q. They were on duty on the night of the accident?—A. They were.

6127. Q. Are the passages leading from the lounge ever locked on board your ship?—A. Never, sir.

6128. Q. Were you in the lounge after the collision?—A. I wasn't, sir.

6129. Q. Did you have any reports from the night watchmen previous to the accident?—A. Previous to the accident, none.

6130. Q. What do you say as to the possibility of 300 women and children having been imprisoned there?—A. I can't see how 300 could get there; we only had 253 second-class passengers altogether, and the room wouldn't accommodate that number. There was no reason why 300 people could get there; they couldn't possibly get there.

6131. Q. How many doors were there leading from that lounge?—A. There was two from the lounge and two from the smoke room; two double doors in the companion just outside smoke-room.

6132. Q. Would these doors ordinarily be shut or open?—A. They are closed with a bolt inside and the bolt is just slipped by anyone and the door is thrown open. The same with the smoking room; the doors are never locked; they were put on for the purpose that a passenger from the inside could pull the bolt and pull the door open.

LORD MERSEY.—I do not think you need trouble about that any further.

The WITNESS.—I may mention that a passenger mentioned this fact to me: about this after compartment he said: The doors was locked, and I contradicted him. I said: Well, suppose they had been locked and you say there was so many people there, couldn't they have burst that door open? He said: No, it was impossible; the door was opened in. I said: Thank you, that is all I require; there are no doors open in; they open out on the deck, every door in the ship.

By Chief Justice McLeod:

6133. Q. You are the chief steward?—A. Yes.

6134. Q. Did you hear any order given to close the water-tight doors?—A. I heard the siren blow a long blast.

6135. Q. What is the significance of that to the crew?—A. There is a notice which has been printed and posted up in each pantry, stating that at a long blast of the siren the men shall attend the bulkhead doors and close them; immediately they go to their boats. The rest of the men go right straight to their boats.

6136. Q. Are there any men specifically delegated to close the bulkhead doors? A. There are, sir; there is a list made out and posted up on a notice board in the pantry so that every man can see it.

6137. Q. I suppose the men do not always read those notices. Are any instructions given to the men that it shall be the business of certain men to close certain

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doors?—A. The men are told off for every door, and every morning at quarter to eleven, the doors are inspected by the captain, the purser, the doctor, the chief officer and myself, and the steward who is in charge of the second class goes with us until we finish with his doors, and the steward from the third class goes with us also until his doors are closed.

6138. Q. Was this inspection made on the morning of the 28th?—A. On the morning of the 28th the inspection was made, sir.

6139. Q. And you say that when this siren blows, each man knows what doors to go to?—A. Yes, sir, and they have certain signals. Of course, the doors are not closed on an ordinary inspection; they are not all closed at once, they are closed as we go around. For instance, there is a man works from the top and the man below gives the signal; he gives two signals to close the door, and he gives three signals to open the door, and he gives four signals to denote that the door is finished with. That is only to see that the doors are in working order; in case of a door being stiff or any-ways hard at all the captain immediately tells the officers to get the carpenter and see that the door is made to run all right.

6140. Q. You say the doors are closed from where?—A. From the deck above.

6141. Q. In all cases?—A. In all cases.

6142. Q. And is there a man there? There must be some machinery to be operated?—A. It is turned by handles; all done by handles.

6143. Q. Who is there to handle them?—A. The man on top; the man gives the signals below to the man who is standing by to turn the door and shut or open it, whichever the case may be.

6144. Q. And the signal for closing the doors is the blowing of a blast on the siren?—A. Yes, sir, that is in emergency cases.

6145. Q. You yourself heard no order given?—A. Not except the siren, sir, no.

6146. Q. At this time, when this emergency occurred, did the men go to the different doors, or do you know?—A. As far as my knowledge goes, sir; there is quite a number of them lost; they went to the doors on the starboard side.

6147. Q. These doors are numbered, are they not?—A. They are numbered, sir, yes.

6148. Q. Have you charge of them?—A. No, sir, the second cabin steward has charge of the doors in his compartment and the third-class steward has charge of the doors in his. They make the list out; they pick the men out and this list is made out before the ship leaves port in Liverpool, and posted up so that every man may know what his station is. Exactly the same with the blankage, buckage and extinguishers; everything is made out on large lists and a man knows exactly where to go to.

By Lord Mersey:

6149. Q. You say that every man knows exactly; are you sure?—A. They are drilled to that, sir; the first inspection that is made we go round and every man has to answer his name. There may be a little discrepancy somewhere, but if there is a man is immediately put in his place before the ship leaves. There is a Board of Trade inspection at Liverpool and all these men have got to answer to their names, sir.

6150. Q. I can understand their answering to their names, but I am not so satisfied about their all knowing what they have to do in the event of an emergency.—A. Do you mean with regard to fire, sir?

6151. Q. Yes, or a collision such as this was. Do they ever read these notices?—A. Yes, sir.

6152. Q. When?—A. They are looking at them practically half the time; they are in the pantry where the men get their food and where they are working all day long. That is where the notices are posted in each department.

By Chief Justice McLeod:

6153. Q. Do you seriously think that the men read them?—A. I don't see how they can avoid reading them; in fact they have got to be there when the inspection is held and if they are not there, they have to give a proper explanation as to why they are not there. Men are told off to the nozzle; men told off to the wheel; men told off to the hose; men told off to the extinguisher. They are told off to buckage; they are told off to blankage; they have a certain place to muster together.

By Chief Justice McLeod:

6154. Q. I find there is evidence that door No. 90 was closed.—A. I couldn't tell you about that.

6155. Q. Do you know of anyone who can tell if any other of these doors were closed?—A. Yes, sir.

6156. Q. Who can do it?—A. There are men in the court here now; there are three or four of them that closed the doors on the port side.

6157. Q. Would you mind giving their names?—A. There is Donegan, Kaniper, Gregory, Hayes. The reason these doors on the port side were closed was because they were immediately opposite the men's quarters and all they had to do was jump out and close them on the port side.

By Lord Mersey:

6158. Q. They were of very little importance?—A. Yes, sir.

By Chief Justice McLeod:

6159. Q. Do you know any of those who closed the doors on the starboard side?—A. Hayes and a man named Harrison. It would be somewhere where she was struck; he works the door there. He is in the court now, sir.

By Mr. Newcombe:

6160. Q. Who is the other man?—A. Harrison.

By Mr. Aspinall:

6161. Q. Were the number of men in your department whose business it was to deal with the watertight doors, 32 in all?—A. 32 in all.

6162. Q. Have only 13 of those men been saved?—A. I believe it is 13 sir, as far as I can learn.

6163. Q. Of these 13 who were saved, are 8 of them men whose duty it is to deal with the port side watertight doors?—A. I think it is 6 on the port side.

6164. Q. You told me 8 this morning.—A. On the starboard side—saved, sir.

6165. Q. Thirteen men have been saved?—A. Thirteen men, sir.

6166. Q. Now, I want you to tell me of the 13, how many of those saved would have to work on the port side?—A. Eight, I believe.

6167. Q. So that 8 of the 13 saved would work on the port side?—A. Yes.

6168. Q. That leaves 5 whose duty——?—A. Five who were lost, sir.

6169. Q. No, no; that would leave 5 saved who, if they had had time and opportunity, ought to work on the starboard side?—A. Yes, that is right, sir.

6170. Q. Of those five, Hayes is one, is he?—A. Hayes is one.

6171. Q. Harrison is another?—A. Yes, sir.

6172. Q. There were three left; are the three others in court here?—A. No, sir.

6173. Q. Where are these other three; that is what I want to know?—A. They were connected with the forward doors, forward of the steerage; they went home, I believe, sir.

6174. Q. Of the five who have been saved, whose duty it was to work on the starboard side, we have only two in this country?—A. Two, that is all.

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6175. Q. Hayes is one who has given evidence. Harrison is here, and when he is put on the stand he will be able to tell us something about it.—A. Yes, sir.

By Chief Justice McLeod:

6176. Q. Whose duty was it to light the emergency lamps?—A. Night watchmen, sir.

6177. Q. Do you know whether they were lit or not?—A. I seen two lit on the forward companion, sir.

6178. Q. Third class accommodation; is that where they were?—A. No, on the main companionway.

6179. Q. Whose duty was it to light the third class?—A. Night watchmen, sir.

6180. Q. Are they here?—A. No, they were drowned, sir.

6181. Q. You don't know whether these lights were lit or not?—A. I couldn't say, sir.

JAMES RANKIN, passenger, *Empress of Ireland*, sworn.

By Mr. Newcombe:

6182. Q. You are an engineer by profession, Mr. Rankin, and you were a passenger on the *Empress* on the 29th of May?—A. Yes.

6183. Q. At the time of the accident you were turned in?—A. Yes.

6184. Q. Wakened by the shock?—A. Yes, that is what really woke me up.

6185. Q. What did you do when you were awakened?—A. I lay for probably about a minute after I was wakened; I didn't get up until I heard the gear working that closes the watertight doors.

By Lord Mersey:

6186. Q. Until what?—A. Until I saw some gear working that closes the watertight doors; extension gear running up to the decks.

By Mr. Newcombe:

6187. Q. You knew what that sound meant?—A. I did.

6188. Q. Then you got up; did you go on deck?—A. Yes.

6189. Q. Whereabouts was your cabin?—A. Just about the foot of the stairway leading down from the dining room, second class dining room; lowest second class deck, on the starboard side.

6190. Q. Was your port open?—A. I was in an inner room.

6191. Q. You say, I came up; the water came to enter by window at lower deck?—A. That is right.

6192. Q. You testified before the coroner and that is your testimony? Will you explain that statement?—A. That port hole I was referring to was not in the room; it was in the alleyway outside the room.

6193. Q. Outside your room?—A. Yes.

6194. Q. Your room opens on a cross passage, close to the starboard side of the ship?—A. Yes.

6195. Q. And that port, you say, was open?—A. Yes.

6196. Q. And the water was coming in there when you went up?—A. Yes.

6197. Q. Coming in in large volumes?—A. No, it was just starting to come in, you may say.

6198. Q. Had the ship listed then?—A. It had.

6199. Q. Very much?—A. Well, it listed enough to bring that port hole to the level of the water.

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6200. Q. Would that be the lowest row of ports in the ship, or would there be a row of port holes below that?—A. That I cannot say; the lowest passenger port holes.

6201. Q. The lowest passenger port holes?—A. I think so.

By Chief Justice McLeod:

6202. Q. Did you close the port hole?—A. No, I left it open.

By Mr. Newcombe:

6203. Q. What did you do on the deck when you came up?—A. I made my way right up to the boat deck on the port side. There were some members of the crew and firemen, you could hardly tell which; they were mixed. They were standing by the boats on the port side.

6204. Q. Trying to release the boats?—A. They did try for several minutes, but they could not get them out; the list had become by that time so great that it was utterly impossible to launch the boats on that side.

6205. Q. Did any of the boats break away?—A. They did, later on.

6206. Q. Did you see them?—A. I heard the crash, yes.

6207. Q. What happened then?—A. They crashed down to the starboard side of the vessel.

6208. Q. Were any people injured, to your knowledge?—A. Well, I don't personally know, but they certainly must have hit someone.

6209. Q. Did you go in one of the boats?—A. No.

6210. Q. Did you find yourself in the water?—A. Yes.

6211. Q. Now, did you see the *Storstad*?—A. Yes.

6212. Q. When you came on the deck?—A. Not at first.

6213. Q. When?—A. About probably five or six minutes after I came on deck.

6214. Q. Where was she then?—A. Immediately abeam on the port side.

6215. Q. How far away?—A. Well, I would say nearly a mile away.

6216. Q. Do you know whether your ship was making any headway at the time of the collision?—A. I couldn't say.

By Mr. Aspinall:

6217. Q. In your opinion did the ship's officers and crew do all they could?—A. Yes, sir.

6218. Q. As far as you could see, did the men seem to go to their stations?—A. Yes.

6219. Q. Was the discipline, so far as you could see, under those circumstances, good?—A. It was.

By Mr. Haight:

6220. Q. Will you, Mr. Rankin, please indicate on the diagram, the stateroom which you occupied. Do you remember the number now?—A. 510. (Position of stateroom indicated by witness on diagram.)

6221. Q. Did you hear any whistles, Mr. Rankin, before you felt the jar of the collision?—A. Yes, I am conscious of hearing whistles before the collision.

6222. Q. Do you remember what the whistles were?—A. I couldn't tell you at all.

6223. Q. You were not, then, entirely asleep before the jar?—A. No.

6224. Q. How long did it take you, do you think, to get to the boat deck on the port side after you felt the jar of the collision?—A. I would say, perhaps, about three minutes.

6225. Q. All told?—A. Yes.

6226. Q. And when you left your room to go up, the port hole in the passageway was already under water?—A. Well, it was on the level with the water, the water was coming in.

6227. Q. And the list when you got to the deck was so great that it was impossible to handle the port boats?—A. In a minute or two it became utterly impossible, yes, sir.

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6228. Q. How long did you stay on the port side?—A. I was on the port side all the time.

6229. Q. Have you any idea near what boat on the port side you stood?—A. The two end boats on the port side. I do not know their position.

6230. Q. Were you near the one that was nearest the stern?—A. No, on the boat deck; the two aftermost boats.

6231. Q. Near which of those two boats did you stand?—A. I was at both of them.

6232. Q. Not at once?—A. Yes, at once, between the two boats.

6233. Q. How soon was it after you got to your position between those two boats that you saw the *Storstad*?—A. Perhaps I would be there about another three minutes; that is about six minutes from the crash.

6234. Q. So that it appeared to you to be perhaps six minutes after the collision before you saw the *Storstad*?—A. Yes.

6235. Q. Had the fog begun to clear then?—A. Yes.

6236. Q. So that you could see a good deal farther then than when you came on deck?—A. Yes.

6237. Q. Had you signed on as an officer of the Canadian Pacific Railway Company, Mr. Rankin?—A. Yes.

6238. Q. In what capacity?—A. As a supernumerary engineer.

By Lord Mersey:

6239. Q. Can you mark on the plan the port hole that you found open?—A. I think so, sir.

6240. Q. Just look at the plan and see if you can. (Position of port hole marked on plan by witness.)

6241. Q. Can you tell me whether you saw any other ports open?—A. No, sir.

By Sir Adolphe Routhier:

6242. Q. The closing of the watertight doors is done quickly; it does not take much time?—A. No, 30 seconds would close the watertight doors; anything up to a minute.

Witness discharged.

LORD MERSEY.—Now, are you likely to have many more witnesses?

MR. NEWCOMBE.—Not a great many, my Lord.

LORD MERSEY.—Do you know whether you will finish your evidence to-morrow?

MR. NEWCOMBE.—Oh yes, I think so; the only witness of any length now will be Mr. Hillhouse.

LORD MERSEY.—He, of course, we must have; and then there will be the expert evidence called on behalf of the *Storstad*.

MR. NEWCOMBE.—Yes, my Lord.

LORD MERSEY.—And is there any other evidence that you know of, from either ship?

MR. NEWCOMBE.—I want to examine Harrison, whose name has just been mentioned, and Powell, who was on the night watch—assistant night steward—with regard to the closing of the doors and the closing of the ports.

LORD MERSEY.—With the exception of these two men, are there any other witnesses to be called?

MR. NEWCOMBE.—Your Lordship mentioned the other day the lack of evidence from the boiler room forward of the engine room. Since then, one engineer has been

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called who was in that room and who escaped; now I believe there are some stokers or trimmers who were in that room and who are also available.

LORD MERSEY.—Has anybody taken from them their statements? I do not want to take up time, you know, by putting persons in the box when they have nothing to tell us.

Mr. NEWCOMBE.—I have just ascertained that these are the men who have gone to Liverpool and have not got back.

LORD MERSEY.—Then they are not here?

Mr. NEWCOMBE.—Apparently not; I thought they were.

Mr. HAIGHT.—There is one man from the ship whom I should like to have called.

LORD MERSEY.—Is he here?

Mr. HAIGHT.—Yes, My Lord; I think he is in Court now.

LORD MERSEY.—Have him here to-morrow morning.

Mr. NEWCOMBE.—Harrison is here and Powell is here.

LORD MERSEY.—Have them here to-morrow morning; I think we will now adjourn until to-morrow morning at 10 o'clock.

Mr. HAIGHT.—I should like to have one of the charts which we have been using photographed; it is quite impossible to secure other copies of the chart and I want to make some diagrams.

The Commission thereupon adjourned till 10 a.m. Wednesday, June 24th.

EIGHTH DAY.

QUEBEC, Wednesday, June 24, 1914.

The Commissioners appointed by the Honourable John Douglas Hazen, the Minister of Marine and Fisheries of Canada, under Part X of the Canada Shipping Act as amended, to enquire into a casualty to the British Steamship *Empress of Ireland*, in which the said steamship, belonging to the Canadian Pacific Railway Company, was sunk in collision with the Norwegian Steamship *Storstad*, in the River St. Lawrence, on the morning of Friday, the 29th day of May, 1914, met at Quebec this morning, the twenty-fourth day of June, 1914.

LORD MERSEY.—We have received a communication from the officer commanding the *Essex* to say that the two gentlemen from the *Essex* who have been conducting the diving operations are at the disposal of the court, if you think it worth while to obtain their evidence.

Mr. NEWCOMBE.—I understood they were available and we are making arrangements to have them here.

Chief Justice McLEOD.—There is another matter we have talked over. There is a question about the course that these vessels took, and particularly the question of the course that the *Empress* took after leaving Father Point and I thought it would be advisable if we could get some captain or pilot, who is used to the course, to say whether the course taken by the *Empress* was the ordinary course with a view of getting out to sea or whether it was a different course. I think that can be done.

Mr. NEWCOMBE.—If it is thought desirable.

Chief Justice McLEOD.—I mentioned it to Lord Mersey and I thought I would mention it to you.

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Mr. NEWCOMBE.—The testimony, as far as it goes, is that they were upon the usual course.

Chief Justice McLEOD.—We have just the testimony of the *Empress* but I thought that some one outside might be got to tell us that.

LORD MERSEY.—I should have thought that you would have brought some gentleman from some independent line.

Mr. NEWCOMBE.—We will try and call competent witnesses in regard to that.

FRANK HARRISON, second class steward, *Empress of Ireland*, sworn.

By Mr. Newcombe:

6243. Q. What was your position on the *Empress*?—A. Second class bedroom steward.

6244. Q. What cabins were under your charge?—A. From 400 to 430.

6245. Q. Were they on the port or starboard side?—A. On the starboard side.

6246. Q. Were you on duty the night of the collision?—A. No, sir.

6247. Q. What time did you leave duty?—A. At 10 o'clock.

6248. Q. Are you in a position to give any testimony in regard to the closing of water-tight doors? Do you know anything about that?—A. I close them every day when we have inspection.

6249. Q. When you retired that night at 10 o'clock were the doors open or closed?—A. Open.

6250. Q. When did you go on deck again?—A. When I heard the crash.

6251. Q. Do you know anything about any doors having been closed at that time?—A. When I heard the crash I heard the siren blow and I knew it meant to close the bulkhead doors, and I went right around to my door. I was unable to close it because there was too much water there.

6252. Q. On what deck is that?—A. On the upper deck.

6253. Q. How much water did you find there then?—A. I could not exactly say but I did not have much time to—

6254. Q. Was the water deep on the deck?—A. It was not too deep, but I could not get to where the door was.

6255. Q. Where was this water coming from?—A. I could not tell you, sir.

6256. Q. Do you know anything about the portholes in the cabins?—A. Yes, sir, they were all closed. All the ports were closed at 10 o'clock when I went off duty except the small passage ports.

6257. Q. Do you mean by that the cross passages between the cabins?—A. Yes, sir.

6258. Q. Those ports were open?—A. They were open at 10 o'clock.

6259. Q. They were open at the time of the collision as far as you know?—A. I could not tell that.

6260. Q. You do not know. Did you observe, when you went down after the collision whether these ports were open or not?—A. No, sir.

6261. Q. How do you know that the ports in the cabins were closed?—A. Because I went around them myself at 10 o'clock.

6262. Q. You went around to each cabin under your charge and saw that they were closed?—A. Yes.

6263. Q. Are they so closed that passengers cannot open them?—A. They cannot open them without they have a key?

6264. Q. There is no key in the cabin?—A. No, sir, the key is kept under lock and key.

By Lord Mersey:

6265. Q. Are the ports that you are talking about on the starboard side of the ship?—A. Yes, sir.

By Chief Justice McLeod:

6266. Q. Where were the ports that you say were not closed?—A. On the starboard side up in the middle alleyways.

6267. Q. Were they outside portholes?—A. Yes, sir.

6268. Q. They were not closed?—A. No, sir, not at 10 o'clock.

By Sir Adolphe Routhier:

6269. Q. In the passages?—A. In the passages.

By Chief Justice McLeod:

6270. Q. You spoke of going to a door and trying to close it?—A. Yes.

6271. Q. What door was it?—A. No. 86.

6272. Q. On the starboard side?—A. On the starboard side.

6273. Q. Was that one of the compartments that was broken by the impact?—A. I could not tell that; it was near amidships.

By Sir Adolphe Routhier:

6274. Q. In what part was it?—A. It was forward of my cabin—by No. 400 room.

By Chief Justice McLeod:

6275. Q. What kind of a door was it, a sliding door?—A. A sliding door.

6276. Q. The water was coming in?—A. The water was up on the top where we were working. I could not see the door. The door was underneath the deck below.

By Mr. Newcombe:

6277. Q. Did you hear of any of these bulkhead doors being closed after the accident?—A. Yes, sir. I heard them closing the doors on the shelter deck when I was rushing down.

6278. Q. Did you hear of any of the lower doors being closed?—A. I could not tell you; I did not hear.

6279. Q. Have you ever heard since from any of your mates, or in conversation with any one on the ship, that the doors were closed, or did any one tell you that he had closed a door?—A. No, sir.

By Chief Justice McLeod:

6280. Q. What deck did you say you were on?—A. The upper deck that we worked the door from.

6281. Q. The upper deck?—A. Yes.

By Mr. Aspinall:

6282. Q. Mr. Harrison, as soon as you felt the crash, what did you do; did you rush up at once?—A. I first put on a little clothing and rushed right down to my door.

6283. Q. You wasted no time?—A. Not a minute.

6284. Q. Your first thought was of your door?—A. Yes, sir.

6285. Q. That was your duty?—A. Yes, sir.

6286. Q. How did you know that this was your first duty?—A. I heard the siren blow.

6287. Q. The siren gave you the order, so to speak, and away you went at once to your door. That is what all the other stewards ought to have done if they did their duty, as you did?—A. Those are the orders, sir,

6288. Q. And having gone up and having done your best you could not work it?—A. No.

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6289. Q. I want to ask you a little about the portholes. At what time of the day did the vessel leave Quebec?—A. Somewhere about half-past three in the afternoon.

6290. Q. Was it a fine afternoon?—A. Yes, sir, very fine.

6291. Q. And it continued fine throughout the night?—A. Yes, sir.

6292. Q. There was no wind?—A. Not that I am aware of.

6293. Q. The ordinary smooth waters of the St. Lawrence—no sea?—A. Yes.

6294. Q. Do you find that under these conditions a great many passengers like their port holes to be open?—A. Yes, sir.

6295. Q. When do you tell us that you went around and closed these portholes?—A. Before I went off duty at ten o'clock.

6296. Q. This was the first night out?—A. Yes, sir.

6297. Q. Were there some women and children amongst the passengers whom you had to look after?—A. Yes, sir.

6298. Q. Did some of these turn in very early?—A. Yes, they were pretty nearly all turned in at 10 o'clock.

6299. Q. Do you feel confident under these circumstances that nearly all having turned in at 10 o'clock, you went into their cabins and closed their ports?—A. Yes, I always did go around before I went off duty.

6300. Q. Do you feel confident that you did that on this night?—A. Yes, sir.

6301. Q. Did you find that any cabins had been locked when you tried to get in?—A. No, sir.

6302. Q. You were in the second class?—A. Second class.

6303. LORD MERSEY.—This is very different from the experience that I have had myself. I must say that I always fasten my cabin door and I always have my porthole open in the cabin. (To witness.) Q. Are there any passengers like me?—A. Yes, sir, but we leave the ports open in the small alleyways and they have their doors open.

6304. Q. What about the ports in the cabin?—A. We close them the last thing at night.

6305. Q. Do you find some passengers who refuse to have their ports closed?—A. If we do find that we leave an order when we go off duty porthole open in such a number cabin so that the nightwatchman will know that the port is open in that cabin.

By Mr. Haight:

6306. Q. Do I understand that except where a special note is made of that character you never allow a passenger to have his porthole open at night?—A. We always close them at night.

6307. Q. Regardless of the weather?—A. Yes, sir; the last thing at night we close them.

6308. Q. No matter how warm it may be or how smooth the sea is?—A. Without the passenger particularly requests it.

6309. Q. At ten o'clock on the night of this accident you were still in the St. Lawrence river?—A. Yes, sir, as far as I know. I was down below.

6310. Q. The weather was perfectly clear?—A. Yes, sir.

6311. Q. The water was perfectly smooth?—A. Yes, sir.

LORD MERSEY.—How does this part of the case affect you? It is necessary for us to ask these questions in order to make our report, but how does this affect you? I am only suggesting, in the interest of brevity, that we dispense with all unnecessary examinations.

Mr. HAIGHT.—I am afraid it will be on the side of my case to which your Lordship takes exception, but personally I think, from my experience, that there is some doubt as to whether the witness is accurate in his recollection in giving such testimony.

LORD MERSEY.—Supposing the witness is not accurate, how does it affect your case?

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Mr. HAIGHT.—It tends to affect the balance of his testimony.

LORD MERSEY.—How does the testimony affect your case?

Mr. HAIGHT.—There is nothing very vital to it.

LORD MERSEY.—I do not think there is.

Mr. HAIGHT.—No, there is not.

LORD MERSEY.—I do not know what Mr. Aspinall wants to cross-examine at all for.

By Mr. Haight:

6312. Q. Then state just where the gear was that you were supposed to work to close your watertight doors?—A. Hanging up to the bulkhead right at the side of the door, sir.

6313. Q. You had a crank hanging on the bulkhead?—A. A key.

6314. Q. Just where in the ship is the gear into which that key fits?—A.——

LORD MERSEY.—How does this affect the *Storstad*?

Mr. HAIGHT.—It bears directly on the question as to how fast the *Empress* sank.

LORD MERSEY.—If it does that is another matter.

Mr. HAIGHT.—He says that there were 2 feet of water in the companionway and entering the door when he got there?—(Witness referred to plan.)—A. (Witness): The key hangs up here. (Witness indicated on exhibit, by letter 'K,' the place where the key hangs on the bulkhead.)

6315. Q. Where is the gear into which that key fits?—A. Right opposite to it on the deck.

6316. Q. How long do you think it was after you felt the jar of the collision before you got to the point where that key was hanging?—A. It was not many minutes.

6317. Q. Did you go as fast as you reasonably could after you felt the jar?—A. As soon as I had got some clothing on, I did.

6318. Q. At that time there were two feet of water in the alleyway?—A. No, sir, I did not say two feet—more water than I could get to place the key in.

6319. Q. How high from the deck is the place where the key fits in?—A. It is level with the deck—flush with the deck.

6320. Q. About how much much water was there?—A. I could not tell you exactly.

6321. Q. You were standing in it; did it come up to your knees?—A. No, sir, it did not come that far up.

Witness retired.

LEONARD POWELL, assistant steward, *Empress of Ireland*, sworn

By Mr. Newcombe:

6322. Q. You were one of the assistant stewards on the *Empress of Ireland*?—A. Yes, sir.

6323. Q. And a nightwatchman of the middle watch on the night of the collision?—A. Yes, sir.

6324. Q. What were your duties on that watch?—A. To light all emergency lamps in case of fog. In case of fog, to light all emergency lamps and go on with my other work.

6325. Q. What was the other work?—A. Cleaning boots and such like.

6326. Q. Did you have anything to do with water-tight doors?—A. No, sir.

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6327. Q. Had you anything to do with the ports in the passages or cabins?—A. I had no ports on my deck.

6328. Q. What deck were you on?—A. Lower promenade and upper promenade, aft.

6329. Q. Where were you when the fog came on?—A. I was in the pantry.

6330. Q. Did you light the lamps then?—A. Not exactly, sir.

6331. Q. When did you light the lamps?—A. I lit the lamps after the collision came on—I was busy doing something at the time.

6332. Q. Did you know you were in fog till the collision came?—A. Yes, sir, I heard the fog horn once.

6333. Q. And you immediately lit the emergency lamps when you heard the fog horn?—A. I was busy doing something; as a rule I do.

6334. Q. But being otherwise engaged you did not do it on this occasion?—A. No, sir.

6335. Q. Then came the collision?—A. Yes, sir.

6336. Q. What did you do then?—A. I ran through the saloon and got orders from the head nightwatchman, and he told me to call all passengers and tell them to get their lifebelts on. As I went on I lit four emergency lamps, two on the lower deck and two on the promenade deck.

6337. Q. You lit two of these as you went along?—A. Yes, and shouted out to the passengers as I was going along.

6338. Q. Did you go on the boat deck?—A. I heard the siren blow and then I got on the top deck and went to the boats.

6339. Q. I think you said you did not know anything about the doors or ports, whether they were closed or open?—A. No, sir.

By Mr. Haight:

6340. Q. You stated that you heard the fog horn of the *Empress* blow?—A. Yes, sir.

6341. Q. What blast did you hear?—A. I heard one blast first.

6342. Q. How many times did you hear one blast blow?—A. I have no idea; my mind was occupied in doing something else.

6343. Q. Did you hear her blow one blast several times—once or twice?—A. I could not say, sir.

By Chief Justice McLeod:

6344. Q. How long before the collision was it that you heard her blow one blast?—A. I could not say exactly the time.

6345. Q. About?—A. About ten minutes, sir.

6346. Q. You had nothing to do with closing watertight doors?—A. No, sir.

6347. Q. That was not part of your duty?—A. No, sir.

6348. Q. You said that you went along and some one gave you orders; who gave you orders?—A. The night watchman, the man in charge.

6349. Q. What were those orders?—A. To call all passengers and tell them to get their lifebelts on and get up on deck.

6350. Q. Did you do that?—A. Yes, sir.

Witness retired.

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WILLIAM WALLACE WOTHERSPOON, recalled.

By Mr. Newcombe:

6351. Q. I want to ask you a few more questions in regard to your wrecking operations. You are an engineer, Mr. Wotherspoon?—A. Yes, sir.

6352. Q. An engineer of the Canadian Salvage Association?—A. Yes, sir.

6353. Q. What is your engagement in respect to the operations on the *Empress of Ireland*?—A. First, to attempt to obtain the bodies, then the mails and then a quantity of silver.

6354. Q. You are engaged by the Canadian Pacific Railway Company to make every effort possible to recover the bodies that are lying in the boat?—A. Yes, sir.

6355. Q. By the Postmaster General to recover the mails and by the Insurers to recover the bullion?—A. Quite right, sir.

6356. Q. Will you tell the Court what experience you have had as an engineer prior to these operations?—A. In regard to what orders I have?

6357. Q. No, I want to make clear your qualifications and equipment for carrying out the engagement to recover the bodies. You are an engineer of considerable experience in salvage operations?—A. I have had some practice, yes, sir.

6358. Q. Can you state very briefly what your experience has been?—A. We have salvaged a number of vessels in these waters, the *Bavarian*, with Mr. George Davey, the *Royal George* and the *Mount Temple* and in the United States I could hardly remember all the names. We have about a salvage case a month there.

6359. Q. You are the engineer of the American Salvage Co?—A. Yes, it is called the Yankee Salvage Association.

6360. Q. And also of the Canadian Salvage Association?—A. Yes, sir.

6361. Q. You have had experience in operations similar to those which you are now undertaking?—A. In regard to deep diving, we were engaged on a vessel called the *Yankee* for nearly a year with some ten or twelve divers, and it required a considerable equipment. We also examined the *Islesworth* off Halifax in almost a similar depth of water. The British Admiralty, a few years ago, made certain investigations in regard to deep sea diving and these investigations practically revolutionized deep sea diving. It is quite the best in view of the fine performances of chief gunner McDiarmid and the two men whom he had on his staff. These divers, while fully maintaining the best traditions of the British navy, showed the skill and perfection to which the art had attained.

6362. Q. These are the divers from?—A. H. M. S. *Essex*.

6363. Q. Has the ship a very thorough diving apparatus?—A. Yes, sir. It so happens that this chief gunner was instructor in one of the schools where these investigations were carried on and not only has he the gear that one would naturally expect the vessel to have but, on account of his experience, I take it that he rather took a little more care in selecting it so that it is quite the best—

6364. Q. So that you have these very highly trained and skilful men for diving?—A. None better.

6365. Q. What equipment have you got there?—A. On the vessel, as well as this English gear, air compressors are used.

6366. Q. The Commander of the *Essex* has placed his gear at your disposal for these operations?—A. Yes, sir, as well as their air compressors and so forth for use with the diving gear in case a man did not want to descend for any time. There is also a recompression chamber, a steel chamber, into which the diver can go in case the air pressure affects him. One of the principal things that was discovered in these investigations in England in regard to deep sea diving was that the time of recompression, the method and manner in which a man was taken from a very considerable pressure to a lighter pressure, was most important. This chamber has a door in it

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and instead of the discomfort of remaining at a certain depth in the water this chamber will give the diver the right pressure and he can go into the chamber and remain in comfort while he gets this low pressure again.

6367. Q. Speaking generally, in regard to the plan and equipment for saving these bodies, including the material you have been talking about just now, do you say that you have everything there that money can procure or science suggest?—A. Yes, sir.

6367½. Q. You have a thoroughly equipped and efficient service there?—A. Yes, sir.

6368. Q. Is it your engagement that you are to continue your operations there until you have saved all the bodies that it is possible to save?—A. Do you wish my instructions?

6369. Q. I want you to answer that question.—A. Yes, we are to continue there until every effort is made.

6370. Q. You are practically at the beginning of the season and in the most favourable time of the year for these operations?—A. Yes.

Witness retired.

LORD MERSEY.—The object of that examination is to show, I suppose, that steps have been taken, and are being taken, to raise as many of the dead as it is possible?

MR. NEWCOMBE.—That is the sole object. I have a certified copy of the ship's articles which gives the names and ratings of the crew and so on.

LORD MERSEY.—I think you had better put that in. (Ship's articles put in and marked Exhibit "R".)

MR. NEWCOMBE.—I have two certified copies of the passengers' certificate and the immigration certificate.

LORD MERSEY.—These were issued in Liverpool?

MR. NEWCOMBE.—Yes, my Lord. (Certified copy of passengers' certificate put in and marked Exhibit "S". Certified copy of immigration certificate put in and marked Exhibit "T".)

MR. NEWCOMBE.—I have the life saving appliance rules and I have a number of copies of these. (Rules put in and marked Exhibit "U".)

LORD MERSEY.—I have a copy, as a matter of fact, which was supplied to me before I came out. If you have copies you had better hand them in.

MR. NEWCOMBE.—We have four copies.

LORD MERSEY.—Four would be enough.

MR. NEWCOMBE.—Then, here is the log of the *Empress* which was found awash.

LORD MERSEY.—I understood that had been put in long ago.

MR. NEWCOMBE.—I believe it has not been put in.

LORD MERSEY.—I understand it does not go beyond twelve o'clock at night?

MR. NEWCOMBE.—No. (Log put in and marked Exhibit "V".)

ALEXANDER RADLEY, boatswain's mate, *Empress of Ireland*, sworn.

By Mr. Newcombe:

6371. Q. I think you were the boatswain's mate?—A. Yes, sir.

By Mr. Haight:

6372. Q. Where were you when the collision occurred, Mr. Radley?—A. On the forward well deck, the upper steerage deck.

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6373. Q. How long had you been on the forward well deck?—A. Since twelve—around the ship, not on that deck.

6374. Q. How long had you been on that deck?—A. On that deck?

6375. Q. Yes, on that deck.—A. On that particular deck, maybe a quarter of an hour or so.

6376. Q. Were you up on that deck when the fog first shut in?—A. No. I was not when it first shut in.

6377. Q. Where were you when the fog first shut in?—A. I would be on one of the promenade decks getting the pilot gear ready.

6378. Q. Did you hear the *Empress* blow fog signals?—A. Before arriving at Father Point—just one.

6379. Q. Did you hear the *Empress* blow any whistle before the collision?—A. Yes.

6380. Q. After leaving Father Point?—A. After leaving Father Point, yes.

6381. Q. What was the first signal that you heard blown on your fog signal?—A. The first that took my attention was three short blasts. I never take much notice of an ordinary fog signal.

By Lord Mersey:

Q. I did not hear you.—A. The first whistle I took particular notice of was three short blasts. I do not take much notice of the ordinary fog signals when I am working about the deck.

By Mr. Haight:

6382. Q. Do you now remember that you did hear some whistles blown by the *Empress* before you heard the signal of three blasts?—A. I did, yes.

6383. Q. Is it not true that the first signal you heard from the *Empress* was one long blast?—A. Very likely.

6384. Q. Mr. Holden has been good enough to submit to me a statement you made to him in the first instance. Is it not true that you first stated to him that the first signal you heard from the *Empress* was a signal of one blast?—A. Yes.

6385. Q. This statement was made to him shortly after the accident?—A. Yes, very soon after.

6386. Q. What was the first light that you saw from the *Storstad*?—A. Her masthead lights.

6387. Q. Did you see any of her coloured lights?—A. I saw both of them.

6388. Q. Which coloured light did you see first?—A. I could not say which. I think I noticed the red one first because I knew when I saw the red light that she was making right for us.

6389. Q. You say you saw the red light first?—A. I do not say I saw it first but it took my attention more—

6390. Q. Then the thing that caught your eye was the red light as far as coloured lights are concerned?—A. Yes.

By Mr. Aspinall:

6391. Q. You spoke about hearing some fog signals just before reaching Father Point?—A. Yes.

6392. Q. Had you got there?—A. No.

6393. Q. What really attracted your attention was the three short blasts?—A. Three short blasts.

6394. Q. Is that the character of blast that would attract the attention of a sailor?—A. Yes.

6395. Q. Did you hear any other blasts from the *Empress*?—A. I heard two long blasts.

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6396. Q. What is the signification of the blasts that you are referring to?—A Two long blasts would indicate they were stopped.

6397. Q. You know the blasts; you have been at sea long enough to know?—A. Yes, I know—25 years.

LORD MERSEY.—Can you tell me how it is that this evidence is not called till so late in the case? It seems to me to be important. How is it that this statement comes at the last moment?

Mr. NEWCOMBE.—Your Lordship will remember that when my learned friends were producing their testimony we asked for a statement of the members of the middle watch and my learned friend, Mr. Beatty, furnished me with a statement and I suggested that it might be desirable to examine the members of that watch who had not been already called. Your Lordship asked me what these people would say and I was unable to furnish the information because I have no instructions in regard to the testimony that is to be offered by members of the crew on either ship. It was ascertained in the conversation which took place then that my learned friends representing the C.P.R. had, as one would naturally suppose, taken statements from all the survivors of their crew including, of course, especially, the members of the middle watch. I understood your Lordship to intimate that it would not be desirable to call them unless something appeared from these statements indicating a reason why they should be called and to suggest that these statements, taken by my learned friends of the C.P.R. should be gone over by my learned friends of the *Storstad* so that it might be determined whether it would be desirable to call any of these witnesses. The result is that I have been requested to call Mr. Radley, the boatswain's mate, who is the only witness that it is desired to call.

LORD MERSEY.—This witness, at some time or another shortly after the disaster, made the statement to some one that the first whistle that he heard from the *Empress* was a long blast. That seems to me to be important.

Mr. NEWCOMBE.—It is important.

LORD MERSEY.—And I must say that I should think that it would have occurred to the persons connected with preparing the case that it was important and I cannot understand why this witness was not called at an earlier stage of the case.

Mr. NEWCOMBE.—Your Lordship speaks of the persons preparing the case. I do not know whether I properly apprehend my duties here.

LORD MERSEY.—Perhaps I should ask Mr. Aspinall that question. Mr. Aspinall, can you tell me why this evidence was not called sooner? You know the importance that we attach to this evidence is that this witness appears to have said shortly after the accident that he heard a long blast blown from the *Empress*?

Mr. ASPINALL.—Yes, my Lord.

LORD MERSEY.—I understand that Captain Kendall says there was no such blast blown and it is important to ascertain whether there was such a blast blown or not. Some one, it seems to me, ought to have called this witness earlier.

Mr. ASPINALL.—Whether this long blast, when he was not paying particular attention, was blown when the ship was in the neighborhood of Father Point or after she left Father Point and just shortly before she ran into the fog, personally I know not.

LORD MERSEY.—What length of time elapsed between the time of leaving Father Point and the collision?

Mr. ASPINALL.—35 minutes.

LORD MERSEY.—I understood him to say that he heard this long blast about ten minutes before the collision.

The WITNESS.—I did not say that; I could not say it.

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By Lord Mersey:

6398. Q. How long before the collision was it that you heard this long blast?—A. I could not say.

6399. Q. If you don't know, don't tell me. I don't want you to invent an answer, but if you do know tell me.—A. I could not tell you at all, sir. I only remember particularly the three long blasts.

6400. Q. You probably mean three short blasts?—A. Three short blasts, I mean.

6401. Q. Why did you call them three long blasts?—A. We were just speaking about a long blast.

6402. Q. Now we are speaking about three short blasts?—A. Yes, sir.

Witness retired.

Mr. NEWCOMBE.—Now, I will recall Mr. Hillhouse.

LORD MERSEY.—Have you the statement that the last witness is supposed to have made? Mr. Newcombe probably has it.

Mr. NEWCOMBE.—I understand it was made to Mr. Holden, representing the *Empress*.

LORD MERSEY.—It is in writing, I suppose?

Mr. NEWCOMBE.—It is in typewriting.

LORD MERSEY.—May I see it?

Mr. ASPINALL.—Yes, I have it in my book here. (Copy of statement handed up to his Lordship.)

By Lord Mersey:

6403. Q. Am I right, Mr. Aspinall, in supposing that you have submitted to Mr. Haight, copies of the statements that have been obtained by you from the crew of the *Empress*?

Mr. ASPINALL.—Of all who have not been examined in court.

Mr. HOLDEN.—Those who have not been examined in court.

LORD MERSEY.—And Mr. Haight has been in a position to acquire any of them.

Mr. HOLDEN.—Yes.

LORD MERSEY.—Has he acquired any other statements?

Mr. HOLDEN.—Mr. Fournier's.

Mr. ASPINALL.—In addition to that we gave Mr. Haight these statements. These are apparently statements made by several members of the crew when in the presence of each other.

Mr. HAIGHT.—I have seen the statements of ten men in all.

LORD MERSEY.—Have you seen all the statements that have been taken?

Mr. HAIGHT.—I should say that I have seen about five per cent or perhaps two per cent of the statements taken, judging from the thickness of these books.

LORD MERSEY.—Then do you desire to have them all before you?

Mr. HAIGHT.—I ought to say in fairness to my learned friends that our motive in New York, and possibly their motive, is to take statements more as advocates than as judicial officers.

LORD MERSEY.—Do you mean to convey to me the idea that they take statements that are not true?

Mr. HAIGHT.—No, my Lord, but I do think they might put in their statements expressions of opinion and references of one kind or another that I thought I would not be entitled in fairness to see and I did not ask to see their statements.

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LORD MERSEY.—But this court is entitled to see everything.

Mr. HAIGHT.—I was speaking of myself in my position as attorney for the *Storstad*, a vessel which is suing and is being sued.

LORD MERSEY.—The *Storstad* is not being sued here; we have nothing to do with that.

Mr. HAIGHT.—Not here; but I have stipulated with my learned friends that the evidence taken here may be used in the civil proceedings pending, and it did not seem to be quite fair that I should put them in the awkward position of refusing to show me these statements; nor do I think it would be quite fair that I should ask them to show statements which had originally been taken confidentially as between counsel and client. I therefore only asked them for the statements of a few witnesses whom they considered unimportant.

LORD MERSEY.—I thought you were blaming them in that they had not shown you more than ten statements.

Mr. HAIGHT.—I am explaining the facts; I am not laying a complaint.

LORD MERSEY.—But you state the facts in a way that would seem to indicate that you are complaining.

Mr. HAIGHT.—I am not making a complaint, but I did not wish it to stand on the record that I had seen the statement of every member of the crew and that I had only seen fit to ask for the production of two men.

LORD MERSEY.—Is there any objection, Mr. Aspinall, to show this gentleman all the statements you have taken?

Mr. ASPINALL.—I am reluctant to do that because as Mr. Haight says, in this book there are a good many observations, as your Lordship will see on looking through the document, made between counsel and witness.

LORD MERSEY.—Observations made by counsel when taking statements are, of course, not matters of evidence.

Mr. ASPINALL.—The way in which the statements are taken is by question and answer with occasional observations.

LORD MERSEY.—And in the same way all the statements made to the gentlemen representing the *Storstad* ought to be brought before the court. Are you aware what these statements are?

Mr. HAIGHT.—I was to give them to Mr. Newcombe as soon as I had them ready.

LORD MERSEY.—Are we in this position that there are a large number of statements which have been taken on the side of the *Empress* and another large number of statements which have been taken on behalf of the *Storstad* and that this court is to see nothing of one or the other?

Mr. HAIGHT.—This court has seen none of the statements. Mr. Newcombe received the first day the only statement I have had time to have typed and I promised him during the course of the day to have the balance of these made out. Your Lordship expressed the preference that Mr. Aspinall and myself should examine our own witnesses. I intended to hand Mr. Newcombe the balance of the statements from my men.

LORD MERSEY.—Am I right in saying that there are a number of statements in existence of witnesses from the *Empress* and a number of statements in existence of witnesses from the *Storstad* which each side has not seen and which this court has not seen?

Mr. HAIGHT.—This Court has never seen any of the statements that I know of.

LORD MERSEY.—I am looking at one now.

Mr. HAIGHT.—With the exception of the one now before your Lordship.

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LORD MERSEY.—Are you satisfied with that procedure?

Mr. HAIGHT.—I am perfectly ready and will be quite glad to hand up to your Lordship the working copy of the notes from which I have examined all the witnesses.

LORD MERSEY.—I do not know what that means.

Mr. HAIGHT.—Here is the original draft taken down——

LORD MERSEY.—Are you willing to hand up the statements of the people who have not been called?

Mr. HAIGHT.—Yes, my Lord.

LORD MERSEY.—So that we may have the whole mass of the evidence which has been secured.

Mr. HAIGHT.—Yes.

LORD MERSEY.—Are you willing, Mr. Aspinall, to hand up all the evidence that has been collected on behalf of the *Empress*?

Mr. ASPINALL.—If your Lordship will give me a moment in regard to what the instructions of my client are——?

LORD MERSEY.—Yes.

Mr. ASPINALL.—Did I understand your Lordship's suggestion to be this: First of all, Mr. Haight, are you willing to put before the Court the statements of all the witnesses that have not been called?—answer: 'Yes,' by Mr. Haight; the other question is this: Are we willing or prepared to take the same course?— answer: Yes. I only make this further statement—it always being remembered that a number of these statements have already been put in the possession of Mr. Haight to make such use of them as he sees fit.

LORD MERSEY.—It is suggested by the Chief Justice to me that possibly we might be doing an injustice to the parties to a civil action in requiring the production of these documents. Is that, in your opinion, right?

Mr. ASPINALL.—May I consult? I do not know the practice here.

Chief Justice McLEOD.—We do not wish to try any question that may have arisen between the *Empress* and the *Storstad*, but it is our business and duty to get all the facts in connection with the collision.

Mr. HAIGHT.—I would very much prefer that, if the statements made to the other side are to be submitted at all, they should be submitted to the court and not to me. I do not think that I am quite entitled to examine their statements, in view of the fact that I am subsequently to try an action against them in a civil court.

LORD MERSEY.—I should not care to read statements upon which you have not cross-examined the witnesses.

Mr. HAIGHT.—The witnesses have all now been called. It is very difficult to cross-examine; I suppose it can be done.

Chief Justice McLEOD.—These statements have been made by a number of witnesses that the parties representing the *Empress* have examined; they have not been heard here at all, and they have not been cross-examined. It would be rather unfair to take their evidence without their being subject to cross-examination. Has Mr. Newcombe seen all these statements and gone over them?

Mr. NEWCOMBE.—I have not seen any of those statements; I thought I made that plain.

Chief Justice McLEOD.—I was about to say that if Mr. Newcombe had had in his possession the statements made both on behalf of the *Empress* and on behalf of the *Storstad*, and had gone over them all, he should have known what they contained.

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Mr. HAIGHT.—I offered him my statements in the first instance, and only the lack of stenographic facilities prevented me from putting them all into his hands when I found that I should have to cross-examine the witnesses myself.

LORD MERSEY.—You have read these statements, Mr. Aspinall?

Mr. ASPINALL.—I have not read them all, my Lord.

LORD MERSEY.—But you have read all that you supposed to be of any importance?

Mr. ASPINALL.—Yes.

LORD MERSEY.—Are you conscious of their containing any information which it would be desirable to place before the court? I ask the same question of you, Mr. Haight.

Mr. HAIGHT.—I have, my Lord, so far as I know, called every witness who knows anything of importance. I have called a number of the men who were asleep, because they had got on deck in time, but I do not think there is any other man on my ship who can add any information to that already given.

LORD MERSEY.—Very well; I should be disposed to accept your statement, Mr. Aspinall.

Mr. ASPINALL.—My answer to that is this: the only thing that occurred to me that could be of the slightest importance in the statements either that we have shown to Mr. Haight or that we have not shown to Mr. Haight is this: In the statements that we showed to Mr. Haight, there is some reason for thinking that the stem lookout man, the man on the forecastle, may not have been there, but apart from that there is nothing. This was in the statements that we handed to Mr. Haight; I personally did not attach importance to it and I take it that Mr. Haight did not attach importance to it.

LORD MERSEY.—There was a man in the crow's nest?

Mr. ASPINALL.—There was a man in the crow's nest. That information we had given to Mr. Haight.

Mr. HAIGHT.—I have never received it; that is, I have overlooked the fact that it is in the notes.

Mr. ASPINALL.—It is in them, and we were conscious of the fact that it was in them when we offered to submit them the other day when this discussion took place. I said: We have given to Mr. Haight this statement, to make use of it as he may see fit. The way the evidence stands with regard to that is this: The Captain thought it was the duty of somebody in addition to the man in the crow's nest to be on the fore-castle head. The man in the crow's nest seems in practice to do the work; he has got a bell which he strikes, and that gives the information in an easy way to the bridge. Captain Kendall and others in responsible positions assume that the man was there; the man unfortunately has been drowned. In the statements that I handed to Mr. Haight, one man said that the man whose duty it was to be on the fore-castle head was washing the decks. Another man says this: I think I saw somebody on the fore-castle head. Apart from that one incident there is nothing in these statements which can be of the slightest value to the court in regard to this matter.

LORD MERSEY.—My object in asking these questions was this: that I did not want it to be suggested by one side or the other later on that anything has been kept back that was of any importance. If I feel sure that neither of you is going to make that suggestion, I am quite satisfied.

Mr. ASPINALL.—I ought to say this in connection with the matter regarding the lookout. Some person on board our ship told the man to go there; he may have failed us and not gone; there is that possibility, but, as I say, there is evidence that a man was seen on the lookout. The man himself was unfortunately lost. Apart from that—I speak in the presence of my friends, who have examined more closely into this book

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than I have—I am in a position to assure your Lordship that there is nothing, at any rate within my knowledge, which will in any way assist your Lordship in arriving at the circumstances which led to this unfortunate catastrophe.

Chief Justice McLEOD.—Have the witnesses who could give us that information been called?

Mr. ASPINALL.—No, they were not called. We gave a group of witnesses to Mr. Haight; Mr. Haight called Mr. Radley.

LORD MERSEY.—Will you, if you can, read the statements which you say convey this information?

Mr. ASPINALL.—What I will do with the assistance of Mr. Holden, will be to read material passages from the evidence of two witnesses, the witness who says that the man who ought to have been on the lookout was washing the deck, and the witness who says that he thought he saw somebody upon the fore-castle deck.

Mr. NEWCOMBE.—Your Lordship has put these questions with regard to the merits of the particular collision, which, though no doubt definite and important, are comparatively unimportant in relation to the question in which the public is so largely concerned; that is, as to why it was that the ship came to sink so quickly: were the bulk-head doors closed and were the port holes closed. I was going to venture to suggest to your Lordship to extend to counsel the inquiry as to whether these statements disclose any information which should be in the hands of the court in that regard.

LORD MERSEY.—I will ask that question after we get the answer to the other questions.

Mr. ASPINALL.—I have got the first one——

LORD MERSEY.—Mr. Haight, do you listen to this.

Mr. ASPINALL.—James Moran, being called, makes the following statement:—

‘Examined by Mr. Holden:

Q. You were on the boatswain’s mate’s watch?—A. Yes.

Q. On the fore-castle head?—A. No.

Q. Do you know who was there?—A. Carroll was on the lookout.

Q. Carroll was in the crow’s nest?—A. Yes.

Q. Did you notice who was up on the stem head?—A. No, I did not.

Q. Did you know Crayton?—A. Yes.

Q. He is lost?—A. Yes.

Q. Do you know where he was at the time of the collision?—A. I think he was in the fore-castle

Q. You did not notice him there yourself?—A. No.

Q. Do you mean he was on the fore-castle head, on the lookout?—A. No, was in the fore-castle.

Q. What makes you think that?—A. He had just finished washing down the decks with me, and he went in the fore-castle.

Q. Did you see him going into the fore-castle?—A. Yes.

Q. How long before the collision itself?—A. About ten minutes.

Q. There was only one Crayton aboard the ship?—A. That is all.

Q. Did you see the boatswain’s mate put somebody on the fore-castle head? Did you know there was a lookout on the fore-castle head?—A. No.

Q. When did you see Crayton last before the collision?—A. He was working with me.

Q. Until when?—A. Until about ten minutes before it happened.

Q. What was he doing?—A. Washing down the decks.

Q. Then, ten minutes before the collision he went into the fore-castle?—

A. We finished washing down the decks, and he went into the fore-castle.

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Q. Was there any one else with you two?—A. I had one man, but I do not know who he is.

Mr. HOLDEN.—Had you planned to go home on the *Alsatian*?—A. Yes.

Mr. HOLDEN.—Well, I am afraid I will have to ask you to remain?

Mr. MORAN.—All right, sir.

LORD MERSEY.—Now, Mr. Haight, did you receive that?

Mr. HAIGHT.—Yes, my Lord.

LORD MERSEY.—Then you have already read it?

Mr. HAIGHT.—It has been read, my Lord, already.

LORD MERSEY.—Now, what is the next one?

Mr. ASPINALL.—The next, my Lord, is the evidence of Bruin, as given to Mr. Holden. He was the man who was in the crow's nest up to 2 o'clock; he went off and Carroll took his place.

LORD MERSEY.—Carroll, if I remember rightly, came into the crow's nest about 10 minutes before the collision?

Mr. ASPINALL.—Yes. This man whose place was taken by Carroll says this:

'Q. You were on the lookout in the crow's nest; who was on the lookout on the fore-castle head?—A. There was a man up there, but I could not tell you his name.

Q. You saw somebody there?—A. Yes.

Q. Do you know where the ship was when she had this man on the fore-castle head?—A. No, sir.

Q. You do not know how long he had been there?—A. No.

Q. Do you know Crayton?—A. I know him as a shipmate.

Q. There was a shipmate of yours by the name of Crayton?—A. Yes. I know him and I remember him.

Q. Do you know what Crayton was doing that night?—A. No.

Q. It might have been Crayton who was on the lookout?—A. It may have been. I do not know.'

And then he goes on to state the weather; there is nothing more with regard to that.

LORD MERSEY.—Was that statement handed to Mr. Haight?

Mr. ASPINALL.—It was.

Mr. HAIGHT.—Yes, my Lord.

LORD MERSEY.—Are these all at present?

Mr. ASPINALL.—There is one further matter, my Lord. Radley, in the evidence which I have handed to your Lordship, says that he told Crayton to go on the fore-castle head.

LORD MERSEY.—You have not had that statement, Mr. Haight?

Mr. HAIGHT.—I think so.

LORD MERSEY.—Is that all, Mr. Aspinall?

Mr. ASPINALL.—That is all.

LORD MERSEY.—Then the matter stands, as I understand it, in this way: that these three statements contain the only information which has not been put before this court?

Mr. ASPINALL.—Yes.

LORD MERSEY.—That you think is of importance. These statements have been in the hands of Mr. Haight?

Mr. ASPINALL.—Yes.

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LORD MERSEY.—He was invited to ask for any witnesses that he desired to have called?

Mr. ASPINALL.—Yes.

LORD MERSEY.—And he did not desire to have these men called?

Mr. ASPINALL.—No.

LORD MERSEY.—May I ask you, Mr. Haight—it is perhaps a question that I should not put to you, but if you think it is not a question that I should put to you, you may decline to answer and I shall draw no adverse inferences. Did you understand from this evidence that there was a doubt as to whether there was a man at the forecandle on watch?

Mr. HAIGHT.—I did not in the first instance so understand, my Lord, but I am not at all sure that the point——

LORD MERSEY.—I do not see how you could have read this without understanding that.

Mr. HAIGHT.—Mr. Griffin and Mr. Duclos read this statement with much more care than I did; I simply read the important points to which they referred. Mr. Griffin tells me that he did gather that it very likely was the lookout who had been washing the decks.

LORD MERSEY.—Another question. I have never heard it suggested from the evidence in this case that there was any fault in the lookout.

Mr. HAIGHT.—None at all, my Lord; I have no suggestion of that kind to make.

Chief Justice McLEOD.—Then whether there was a lookout in the forecandle or not, does not greatly matter?

Mr. HAIGHT.—It does not appear to me that with men in the crow's nest and on the bridge, another seaman on the forecandle head adds very much to the safety of the situation.

LORD MERSEY.—You know, we had exactly that question in the *Titanic* inquiry: whether there were men in what were called the eyes of the ship. There were men in the crow's nest, but none in the eyes of the ship, and I remember very well that it was not considered of very great importance.

Mr. HAIGHT.—When the fog limits the range of vision and the vessel is seen well off on the starboard bow, there is very little to be said for the advantage of this in this case.

Mr. ASPINALL.—I cannot at the moment put my hand upon the report of the discussion in which your Lordship and Mr. Haight and myself took part, as to whether he should have an opportunity of seeing the statements that we had obtained from these various men, but what happened was that I offered and gave him these statements with a full knowledge that this information was available to him, to be used as he might see fit.

LORD MERSEY.—I am very much disposed to be guided by what you two gentlemen tell me, and if you are both of opinion that it is a matter of little importance whether or not there was a man at the forecandle head, I think, speaking for myself, that I should view the matter in the same light, and I rather think my colleagues would also.

Mr. ASPINALL.—When this matter came to my knowledge first, naturally I gave it consideration, but as the case developed, especially in view of the fact that Mr. Haight, as he now says, was not attacking our lookout, I came to the conclusion at once that this incident was quite immaterial. We gave Mr. Haight the document that contained this information and he now frankly says that he still attaches no value to it.

LORD MERSEY.—Mr. Haight, would you like these witnesses to be put in the witness box?

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Mr. HAIGHT.—My Lord, as I understood the situation two days ago, Mr. Newcombe said: We have certain other witnesses who can be called. I had not the slightest idea whether or not what they knew would be of any interest to the court. Your Lordship said: We do not wish men put into the box if nobody knows what they are going to say and nobody knows whether what they have to say is of importance. I understood that those men were here. I said to Mr. Newcombe: Instead of putting man after man into the box and having them say: I was fast asleep, saw nothing, heard nothing and went into the water, will you let me see their statements and I will look over them and see whether there is anything in them. There were only six or eight or ten men whose statements I received. If my friends assure me and assure your Lordship that there is nothing in their entire book of statements which will in anywise embarrass me in what they consider and what I consider to be fair treatment towards them in the subsequent conduct of the civil suit, I should like to look through their entire book of statements and give them my entire book of statements, and each of us may come back to court with any observation we may have to make on the subject.

LORD MERSEY.—What I want to know is whether you desire to have these three witnesses called.

Mr. HAIGHT.—I have asked that one be called; he was in the witness box this morning. As to the other two, it does not seem to me that they are of any importance.

Chief Justice MCLEOD.—One of the three has been called.

Mr. HAIGHT.—Radley, called this morning, was one of those named.

LORD MERSEY.—Do you desire either of the other two men to be called now?

Chief Justice MCLEOD.—Do not call them unless they can give us some information. You should be in a position to let us know that; we do not want to call witnesses to find out.

Mr. NEWCOMBE.—So I apprehend.

Chief Justice MCLEOD.—As I said before, I do not think this court wishes to try the issue as between the *Empress* and the *Storstad*.

Mr. HAIGHT.—Of course, you must try these issues, my Lord; which vessel is at fault.

Chief Justice MCLEOD.—We must do that, of course.

LORD MERSEY.—The matter of the lookout is one of importance. You know, although I say that, I appreciate the observations that you have made, Mr. Haight, that if there was a man in the crow's nest who was keeping lookout in the then state of the atmosphere, it is of little importance, perhaps of none, whether or not there was a man at a lower level in the fore-castle head doing the same thing.

Mr. HAIGHT.—That is the way it seems to me; the fog is thicker the nearer you get to the water.

LORD MERSEY.—Very well. Now, the long and short of this seems to me to be this: that we need not call these men, and I am not going to order or suggest that you shall exchange these bundles of privileged communications which you have received on the one hand or on the other, because I do not think that by doing so this court will be helped, and I do think that possibly the case which we know will have to be tried, the civil case, may be prejudiced. Are you now satisfied? There has been a long discussion and I am afraid that it has been all about nothing; perhaps it is my fault. (To Mr. Newcombe): Have you any other witnesses?

Mr. NEWCOMBE.—At the peril of prolonging the discussion for one moment, may I remind your Lordship of the observations which I made a moment ago?

LORD MERSEY.—Yes. Now, Mr. Newcombe says—I do not think this affects Mr. Haight at all—Mr. Newcombe very properly says that it is of great importance to

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this court to know whether everything was done on board the ship to secure the performance by the men of their various duties, that is to say, the closing of the water-tight doors and the providing of life-belts. If there is anything, Mr. Aspinall, in your bundle of information which you think will throw light on these questions, this court thinks either that you ought to give the information to Mr. Newcombe, that he may exercise his judgment upon it, or that you should yourself put the necessary witnesses into the witness box, because we shall have to consider whether proper steps were taken to close the water-tight doors, and we shall have to consider also whether proper steps were taken to see that the unfortunate people on board secured life-belts and any assistance that they would require under the circumstances.

Chief Justice McLEOD.—Would these two witnesses throw any light on these particular questions?

Mr. ASPINALL.—No, my Lord. What I propose to do with regard to that is this: that between this time and some time later in the day we will carefully go through this volume—Mr. Holden is very conversant with its contents—and any information which is contained in the book with regard to the matter to which your Lordship has addressed your remarks will be given to Mr. Newcombe.

LORD MERSEY.—Is there anything else, Mr. Newcombe, that you think desirable to elicit either from Mr. Aspinall's clients or from Mr. Haight's clients?

Mr. NEWCOMBE.—No, I think your Lordship mentioned all the particulars, except possibly, the closing of the ports.

LORD MERSEY.—Yes, I omitted that. (To Mr. Aspinall): Your search ought to be with reference to water-tight doors, port holes and life-belts.

Mr. HAIGHT.—So far as I am concerned, my Lord, Mr. Newcombe may have every statement that I have from the *Storstad* if he wishes to see them.

LORD MERSEY.—We are on now only these particular matters; I suppose that the *Storstad's* witnesses can give us no information in regard to these matters.

Mr. HAIGHT.—Nothing, except what we did as to the saving of life.

LORD MERSEY.—Now, then, Mr. Newcombe, you hear the undertaking that has been given, and after the adjournment we will see whether it produces anything. Who are the next witnesses?

Mr. NEWCOMBE.—I understand that the divers from the *Essex* are to be here at a quarter to 12. It was said that it was important that they should not be detained here any longer than is necessary; in the meantime I am ready to call Mr. Hillhouse. Would it be inconvenient to interrupt his evidence?

LORD MERSEY.—I think not.

PERCY HILLHOUSE, naval architect, recalled.

By Lord Mersey:

6404. Q. You have been sworn, Mr. Hillhouse?—A. Yes, sir.

By Mr. Newcombe:

6405. Q. You have stated, Mr. Hillhouse, that you are the naval architect of the Fairfield Shipbuilding and Engineering Company?—A. Yes.

6406. Q. The builders of the *Empress of Ireland*?—A. Yes.

6407. Q. She was constructed at Govan, in 1906?—A. Yes.

6408. Q. Was she constructed according to design and specifications prepared by the Fairfield Company?—A. No, the design and specifications were received from the Canadian Pacific Railway Company.

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6409. Q. And your company, upon that design and specification not prepared by them, contracted the construction of the ship?—A. Yes.

6410. Q. Her machinery also; was that constructed by the Fairfield Company?—A. Yes.

6411. Q. According to specifications furnished?—A. According to specifications received from the Canadian Pacific Railway.

6412. Q. Now, do you produce copies of the specifications of the vessel and of the machinery?—A. Yes.

6413. Q. Are they contained in these books?—A. Yes.

LORD MERSEY.—They had better be handed in and marked.

By Mr. Newcombe:

6414. Q. Specifications of a steel twin screw passenger steamer. Now, have you copies there?—A. Yes, I have copies there.

By Lord Mersey:

6415. Q. Who was the vessel designed by?—A. The vessel was designed by the late Dr. Francis Elgar.

By Mr. Newcombe:

6416. Q. Now, the specifications of the hull are marked 'X' and the thin copy, specifications of the machinery, is marked 'Y.' The plans of the ship you have already produced and explained?—A. Yes.

6417. Q. Under what survey was this vessel built?—A. She was built under Lloyds survey to class star 100 A-1, the star indicating that the vessel was surveyed during construction and not merely classified after she had been built.

6418. Q. Was she also surveyed by the Board of Trade?—A. Yes.

6419. Q. And classed as star A-1 at Lloyd's, under their rules, I suppose, applicable to vessels of her design?—A. Yes, of the highest class contained in their rules.

6420. Q. It was a vessel with three decks and a shelter deck?—A. Yes.

6421. Q. Were these the rules of 1891, do you happen to know?—A. No, these were the rules in force at the time. The construction was begun about January, 1905, and was finished in June, 1906, so that the rules under which she was built would be Lloyds rules in force in the early part of 1905.

6422. Q. Was she built in accordance with British Admiralty requirements for conversion into an armed cruiser or troop ship?—A. I do not think so; I cannot be sure on that point.

6423. Q. According to the statement which I have, she was so built, with all strengthenings required for mounting guns. Will you look at No. 6 on page 5 of Exhibit 'X'? (handed to witness).—A. I have no recollection of any special strengthening having been put in for guns.

6424. Q. What was the dead weight capacity of the ship?—A. She carried a total dead weight of 6,900 tons upon a draught of 27 feet 6 inches.

6425. Q. That is the mean low draught?—A. Yes.

6426. Q. Including cargo, coal, passengers?—A. Including cargo, coal, passengers, baggage, stores, and water.

6427. Q. Crew?—A. Crew and effects.

6428. Q. And spare gear?—A. Spare gear.

6429. Q. The dimensions of the ship, length between perpendiculars?—A. 550 feet; breadth 65½ feet and depth to the upper deck, 40 feet.

6430. Q. Will you describe the decks. She had four steel decks, I believe? Would you like to refer to the plans?—A. I think I can remember that. All her decks were of steel. There were four continuous steel decks extending from the stem to the stern, namely the shelter deck the upper deck, the main deck and the lower deck. In addition—

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tion to that there were a number of decks of steel which did not extend the whole length, the orlop deck, which occurs only at the two ends in the lower part of the ship, and above we have the lower promenade, upper promenade, and boat deck, which occur in the amidships portion.

6431. Q. The orlop deck is in the fore and aft hold?—A. Yes.

6432. Q. What is the thickness of the steel of those decks?—A. For that I would have to refer to the amidships section plan.

6433. Q. Have you got duplicates of that there?—A. Not of the amidships sections.

(Plan produced by witness.)

By Lord Mersey:

6434. Q. Is that the amidships section?—A. Yes, my Lord. The shelter and upper decks are each 9-20ths of an inch thick; the main and lower decks 8-20ths of an inch.

By Mr. Newcombe:

6435. Q. And these plans show the general arrangement of the ship's sides?—A. Yes, sir.

6436. Q. Now, take the space between the decks; measure from top of beam to top of beam in each case, the distance between the main deck and the lower deck would be what?—A. These between-deck spaces are 8 feet in all cases, except the decks above the shelter deck.

6437. Q. And also the promenade deck above the shelter deck?—A. Is 8 feet 8 inches.

6438. Q. The upper promenade deck above the lower promenade deck?—A. 8 feet 6 inches.

6439. Q. And the boat deck 8 feet 6 inches above the upper promenade?—A. Yes.

6440. Q. What was the height of the boat deck above the water line at low draught?—A. 45 feet.

6441. Q. Have you produced a plan showing the port holes in the sides of the ship and the cabins and passages on the various decks?—A. Yes.

6442. Q. That is in evidence?—A. Yes.

6443. Q. Can you give the heights from the waterline to the under side of each row of these port holes in the side of the ship?—A. Yes, that can be given.

6444. Q. Would you rather figure that out?—A. Yes, it would be better to give me a little time to do it.

6445. Q. Make a note that this be done.

LORD MERSEY.—How long are you likely to be with this witness, do you think? Are the divers here?

MR. NEWCOMBE.—They are here; I should think I would be an hour.

LORD MERSEY.—Do you not think it would be better for us to hear the divers now?

MR. NEWCOMBE.—I think so. (To witness): You may retire for the present.

LORD MERSEY.—While you are out you may make the calculation that Mr. Newcombe asked you for.

Witness retired.

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SESSIONAL PAPER No. 21b

JOHN MACDIARMID, chief gunner, H.M.S. *Essex*, sworn.

Examined by Mr. Newcombe:

6446. Q. You belong to the cruiser *Essex*, which is now lying here?—A. I do.

6447. Q. In what capacity?—A. Chief gunner.

6448. Q. Will you state what you know about the diving in connection with the *Empress of Ireland*? You have been down there, I understand.—A. I have been in charge of the diving operations so far as my divers are concerned.

6449. Q. How many divers from the ship have you had?—A. Three.

6450. Q. Names?—A. They are Whitehead, leading seaman, Kellier, Macdonald.

6451. Q. Are these three in court now?—A. No.

6452. Q. Any of them?—A. One, sir.

6453. Q. Which one?—A. Whitehead.

6454. Q. Where are the others?—A. On board the ship.

6455. Q. When did you come up from the wreck?—A. We arrived in Quebec at 4 o'clock yesterday afternoon.

6456. Q. Now, will you state what information you can give with regard to the position and condition of the wreck; how it is lying and what has been ascertained by reports from the bottom?—A. Do I understand that you want to know what the divers found out with respect to the position of the wreck?

6457. Q. Yes.

By Lord Mersey:

6458. Q. Were you down yourself?—A. Personally, no, my Lord.

6459. Q. All the information you are going to give us is information that you obtained from the men who were down?—A. No, not exactly that; I can tell by the movements of the diver under water; I can tell in which way he moves.

By Mr. Newcombe:

6460. Q. You are in charge of the apparatus on top?—A. Of my own divers, yes.

6461. Q. Now, will you state—A. My diver went on the hull of the ship with instructions that he was to walk fore and aft, so that I could see by the bubbles coming to the surface in which direction he moved, and by the movements of those bubbles, I could tell, as near as can be got at, how the wreck lay on the bottom. I came to the conclusion that by the compass that was in the ship she was lying northeast and south-west; that is the line of the ship.

6462. Q. And the bow?—A. To the north-east.

6463. Q. You observed those bubbles and you took the compass direction?—A. Yes.

6464. Q. Anything further; any further information?—A. Well, I was sent there to find that out; that is all that I troubled about. I went just to see that; my instructions were to find out how the ship was and make observations, that is all.

6465. Q. You know, Mr. MacDiarmid, I have had no statement from you. I should like to know whether you have any other information to give the court in respect to the vessel?—A. I can't say anything beyond that: that my diver went down and found out the direction in which the ship was lying.

6466. Q. Is he the diver who is here, Whitehead?—A. Yes, sir.

6467. Q. Are your divers still engaged in diving operations there?—A. At present they are here on board the *Essex*.

6468. Q. Are you going back to the ship?—A. That I cannot say.

6469. Q. You have no orders?—A. I have had no orders yet.

6470. Q. You do not know?—A. No.

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Cross-examined by Mr. Haight:

6471. Q. Mr. MacDiarmid, will you please state how many descents your divers made?—A. Five.

6472. Q. Did one man go down at a time, or more than one?—A. One at a time.

6473. Q. That is, the three divers made five separate descents?—A. Five separate descents.

6474. Q. Would your records show the dates and hour of the day that the descent was made and the length of time each man was under water?—A. They would.

6475. Q. Do you happen to have them here?—A. I have not got them in my possession at present.

6476. Q. The question has been raised, Mr. MacDiarmid, as to possible currents and eddies at this particular point. Did you in sending your men down choose any particular time of the tide or any particular tide?—A. The operations that have been going on so far have been to secure a diving vessel or the vessel that is employed there, to the wreck, and we have had to depend on wind and weather.

6477. Q. Have you been governed by tidal conditions? If the weather has been favourable, and the surface of the water perfectly smooth, have you gone down with impunity at any time of the tide?—A. As far as we have dived, the practical diving has taken place—we have gone down when the weather—

6478. Q. When the water was smooth and the wind calm, you went down if you wanted to?—A. Yes.

6479. Q. Have you noted particularly the stage of the tide or whether it was ebb or flood at the time your men have gone down?—A. I have not noted that, but by the actual times shown by my record of when the divers did go down, if that is applied to the tide tables, it will tell exactly the state of the tide.

6480. Q. Will you be good enough to furnish us later, if you cannot now, an accurate statement showing each day upon which your men went down, the time that the descent was started, and the period that each man was under water?—A. Well, I am not prepared to give any details like that unless I have my written dates and times, and I have not got them in my possession at present.

6481. Q. But you have them on board the *Essex*?—A. I have.

6482. Q. Will you subsequently consult them and make up that statement?—A. I will.

6483. Q. Thank you. Did any of your divers while they were down have any difficulty from the strength of the current? Were they washed off the ship or did they have difficulty in making the descent?—A. There was no report made to me to that effect by any of them; no complaint of any kind.

6484. Q. How long have you been actually on the boat anchored off the wreck?—A. That again will have to be answered by referring to the times.

6485. Q. Well, is it a considerable number of days?—A. The first day was on Friday the 19th.

6486. Q. And you stayed there how long on that occasion?—A. We stayed until late; I am not prepared to say the times unless I—

6487. Q. You were there quite a while on Friday?—A. Very long time on Friday.

6488. Q. That is, from early morning until through the afternoon?—A. I will not commit myself to times at all.

6489. Q. Were you there on Saturday at all?—A. No.

6490. Q. Were you there on Sunday?—A. Yes.

6491. Q. A number of hours then?—A. I say again, I will not commit myself to times.

6492. Q. Were you there Monday?—A. No.

6493. Q. You were there, as I understand, yesterday?—A. No.

6494. Q. I thought you came back last night?—A. So I did.

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6495. Q. During the time that you have been on your boat anchored over the wreck, have you noticed any unusual or peculiar tidal conditions; anything like eddies or whirlpools?—A. That question was asked before, and I think I gave answer to it, or a question to that effect.

6496. Q. Do you mind answering it again? I did not not catch your answer.—A. The conditions of tide when the water was smooth—and that could be noticed fairly well—were normal.

By Chief Justice McLeod:

6497. Q. Did your divers report to you that they found any of the port holes open or closed?—A. One diver, the diver we have in port at present, sir, said that he found one port quite closed, and going along to the next one he found a piece of stuff sticking out of it and cut it off. When he came to the surface it was a piece of blue stuff with a border to it; what it belonged to or what it was I do not know, but that was brought to the surface by the diver.

By Lord Mersey:

6498. Q. Do you mean to say that it was something sticking out from the port hole?—A. Yes, my lord.

6499. Q. That would indicate that the port hole was open?—A. It must have been open.

By Chief Justice McLeod:

6500. Q. Did he report anything with reference to the watertight compartments, whether they were open or closed?—A. No, sir.

By Lord Mersey:

6501. Q. I have assumed that they did not go inside the body of the ship.—A. My divers have not been allowed to go into the hull of the ship.

6502. Q. They have been examining only the skin of the ship?—A. Yes, sir.

6503. Q. They were not allowed to go inside?—A. I gave them orders not to go inside.

LORD MERSEY.—You were very wise.

By Sir Adolphe Routhier:

6504. Q. They did not ascertain whether the watertight doors were closed or not?—A. That could not be ascertained unless you go into the hull of the ship, and I would not allow my divers to go in—not so far.

By Lord Mersey:

6505. Q. You talked about a port hole which had something sticking out of it, some cloth, as I understand?—A. Yes, sir.

6506. Q. Do you know what deck the port hole belonged to?—A. I could not say.

Witness retired.

WILFRED WHITEHEAD, leading seaman, H.M.S. *Essex*, sworn.

By Mr. Newcombe:

6507. Q. You belong to the *Essex*?—A. I do, sir.

6508. Q. And what is your rating?—A. Leading seaman.

6509. Q. Are you an experienced diver?—A. Not quite four years at it.

6510. Q. Have you been diving at the *Empress of Ireland*?—A. I have, sir.

6511. Q. How many descents did you make?—A. Two on the ship.

6512. Q. On what days?—A. One on the Friday and one on the Sunday.

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6513. Q. That is last Friday and last Sunday?—A. Yes, sir.

6514. Q. Well now, will you tell me what you did and saw on each occasion?—A. On the Friday I went down with instructions to find out if possible which direction the ship was lying in, and I went down and examined the plates, and the plates told me which was forward and which was aft, and I travelled along in that direction, so they could see my bubbles, and could note the place I went down and note the direction of the bubbles, and that would give them the direction she was lying in. I did that, and I went along to the extent of my stray line, which I made fast to the rope on which I descend, so that I can always find my way back to the same place. I went to the full extent of the stray line, which is from nine to ten fathoms, either way, and I came across a valve which I took to be a Kingston valve, and I clambered up a little way and came to one of the port-holes; I clambered up a little way higher, and came to the next line of port holes, and I saw a piece of blue cotton sticking out of the port-hole, and the port-hole jammed home tight on top of it.

By Lord Mersey:

6515. Q. You say you saw it?—A. Yes.

6516. Q. Did you see it?—A. I did see it, sir.

6517. Q. Down there?—A. Yes, sir.

6518. Q. Is there enough light to see when you were at that depth?—A. I can see ten feet, sir, at thirteen fathoms.

6519. Q. You can see at a distance of ten feet?—A. Yes, sir, I can see forward a distance of ten feet at thirteen fathoms.

By Mr. Newcombe:

6520. Q. Do I understand that you travelled a distance of 18 or 20 fathoms in all upon the ship?—A. Along the ship.

6521. Q. Yes, that is to say do I understand that you travelled a distance of 18 or 20 fathoms, the length of your stray line is nine to ten fathoms, is it not?—A. Yes, sir.

6522. Q. So the entire distance you traversed would be double that?—A. Yes, sir.

6523. Q. Then I do understand that you travelled along the length of the ship about 18 or 20 fathoms?—A. You do, sir.

By Lord Mersey:

6524. Q. Of course you were on the port side of the ship?—A. I couldn't say which side it was, but it was my idea that it was on the port side of the ship—on the port side, yes, sir.

By Mr. Newcombe:

6525. Q. Did you find that the spars of the ship were pointing to the southward?—A. I didn't get up as high as the spars. I got on her low down.

6526. Q. How is the ship lying, over on her side or on her bilge, or how does she lie?—A. The side on which I landed was very steep.

6527. Q. Very steep, you say?—A. Yes, sir.

6528. Q. Would you be up on the flat of the ship, where the port-holes were, along by the port-holes—did you walk along by the port-holes?—A. Yes.

6529. Q. On the side of the ship?—A. Yes.

6530. Q. Well, when you say very steep, will you indicate at what angle the side of the ship would be lying?—A. I should say at an angle of about sixty degrees, the part I was on.

6531. Q. And could you cling to the side of the ship?—A. I could not, sir.

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6532. Q. How did you manage that?—A. By holding on to this rope, and each time I went along I dropped down a little bit, and I was gradually getting lower than my rope, and that kept me where I wanted to be.

6533. Q. Did you observe whether any of the port holes were open?—A. There were no port holes open that I saw, sir.

By Lord Mersey:

6534. Q. I thought there was one open and that you saw some stuff sticking through it?—A. That port hole, sir, was closed on top of the stuff, and the stuff was sticking out.

6535. Q. You mean to say something had been nipped in?—A. Yes, sir.

By Mr. Newcombe:

6536. Q. Do your observations enable you to speak generally as to the port holes along the line you traversed, or do you merely say you did not see any that were open?—A. Along the line I travelled, there were none open, and I passed a lot of them.

6537. Q. Would that be the line of the lower ports?—A. The lower ports and the second ones up.

6538. Q. The lower line of ports and the second ones above?—A. Yes, sir.

6539. Q. So am I right in supposing that you testify that for a distance of 18 or 20 fathoms along the side of the ship, none of the port holes were open in the lower or second tier of portholes in the ship's side?—A. Yes, sir.

By Lord Mersey:

6540. Q. Let me see, how many feet would that be that you travelled?—A. Well, that would be between 18 and 20 fathoms.

Mr. NEWCOMBE.—And a fathom is six feet, my Lord, say a maximum of 120 feet.

6541. Q. Can you say what part of the ship that 120 feet would be, in relation to the bow or the stern of the ship?—A. I cannot, sir. I did not come near any of the propellers, and therefore, I know I did not reach so far as the stern.

6542. Q. Did you see the smoke funnels?—A. No, I did not get as high up as that.

6543. Q. Well can you say whether you were on towards the bow, that part of the ship which narrows towards the bow, or whether you were on the flat side of the ship. Can you give any information as to what part of the ship you were travelling on?—A. I couldn't, sir, except for the Kingston valve.

6544. Q. What?—A. An inlet valve, down below.

6545. Q. What do you say about the valve?—A. I say I went down near the valve.

By Mr. Aspinall:

6546. Q. When you were sent down did you get any instructions as to what you were to do when you got down?—A. Yes, sir.

6547. Q. What were the instructions?—A. To try and find out the direction of the ship.

6548. Q. Were there any more instructions than that?—A. No, sir.

By Mr. Haight:

6549. Q. Do you remember what time of day it was when you went down on Friday?—A. No, sir.

6550. Q. Approximately?—A. Oh, roughly, sir, yes, I can tell you that, sir. About one o'clock, sir.

6551. Q. And about how long were you under water?—A. About thirty-five to forty minutes I estimate, sir, but, of course, I cannot tell the time down below. That is in my officer's hands.

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6552. Q. Did you have any trouble in getting* up or down or moving along the ship, so far as the current or tide was concerned?—A. I say that there is a tide down there, but it is not too strong so that I could not master it.

6553. Q. Which way was the tide running when you went down on Friday? Could you tell whether it was going from the east to the west or lengthways with the river, or how?—A. No. I can tell you which way the tide was that time, because I know which way it was easiest to go.

6554. Q. Well, which way was the easier?—A. It was easier to go forward on the ship, but I don't know what was the direction of the ship. I don't know it by the compass, only as my officer said to day, sir.

6555. Q. Did the course of the tide, as you walked forward, appear to be the same all the way along the ship?—A. Yes, sir.

6556. Q. How long were you down on Sunday?—A. I wasn't down very long on Sunday. I only went down on a special occasion.

By Lord Mersey:

6557. Q. But the question you were asked was, how long were you down on Sunday—about how long were you down on Sunday?—A. About a quarter of an hour, sir.

By Mr. Haight:

6558. Q. Did you go down on Sunday when the other diver got into trouble?—A. That is when I went down.

6559. Q. You were not paying any attention to currents then?—A. No, sir.

By Sir Adolphe Routhier:

6560. Q. Did you find it very slippery on the hull of the ship?—A. Not very slippery, I didn't have cause to hang on to it. There is a thin coating of slime, so that as you draw your fingers over it, it leaves finger-marks.

By Mr. Haight:

6561. Q. Did I ask you the time of day when you went down on Friday?—A. Yes, sir.

6562. Q. Well I don't remember your answer.—A. It was one o'clock, roughly, sir.

6563. Q. And what was the time of day when you went down on Sunday?—A. I couldn't say the time on Sunday, it was later.

6564. Q. As I understand, you couldn't see, or at all events you didn't see, the starboard side of the ship?—A. No, sir.

By Sir Adolphe Routhier:

6565. Q. Was it lying on the bottom?—A. On the bottom, sir, yes, and I didn't go on the bottom.

6566. Q. The starboard side is on the bottom?—A. Yes.

By Lord Mersey:

6567. Q. As I understand it, the starboard side does not lie flat on the bottom?—A. I couldn't say about that, sir.

6568. Q. Well, I thought it followed from what you did tell us that she was lying on an angle of about sixty degrees. Just look at this—you see I take this blotter in my hand—now supposing that was the ship, and this was the starboard side, she is lying, as I understand it, something like that (indicating)?—A. Yes, sir.

6569. Q. And you were here (indicating)?—A. Yes, I was.

6570. Q. And you describe that—I don't know quite what you meant—as an angle of sixty degrees, didn't you say so?—A. I did, sir.

6571. Q. Well, it was very steep then?—A. Yes, sir.

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LORD MERSEY.—Very well.

MR. NEWCOMBE.—These two last witnesses may be discharged, I presume, my Lord.

LORD MERSEY.—Well, personally, I don't think the court wants them again.

MR. NEWCOMBE.—There is a memorandum which the chief gunner was going to send in.

LORD MERSEY.—Yes, the first witness was to send over the memorandum which Mr. Haight asked for.

PERCY HILLHOUSE, naval architect, recalled.

By Mr. Newcombe:

6572. Q. I was asking you, just before you retired, Mr. Hillhouse, the height from the water-line to the underside of each row of port-holes?—A. As the vessel was floating immediately before the accident, the heights were as follows: the lower edge of the side-lights on the shelter deck, 27 feet; those on the upper deck, 19 feet; on the main deck, 11 feet; on the lower deck, 3 feet. Those are the heights at the amidships part of the vessel.

6573. Q. Well, that accounts for four rows?—A. Yes, four rows, but as I said those are the heights amidships. Forward, the heights would be about ten feet more than that on account of the sheer of the ship. Aft, they would be about two and a half feet more, and also as there are no lower deck side-lights in the amidships part, we don't go as low as three feet. The lowest light is five feet above the water.

6574. Q. Now then, with regard to deck erections, was there a deck-house on the shelter-deck?—A. On the shelter deck there was constructed forward a forecastle and amidships a long bridge.

6575. Q. Yes?—A. The upper side of the bridge was formed by the lower promenade deck, which extended from the fore end of the bridge right to the stern. On the lower promenade deck there was built amidships a long deck-house. The upper side of the deck-house was the upper promenade deck.

6576. Q. Would that deck-house be carried out to the sides of the ship?—A. No, when I speak of a deck-house, I mean a house which does not extend out to the sides of the ship.

6577. Q. What did that deck-house contain?—A. That contained some cabins, the library, the café, and smoke room.

6578. Q. And then below that, there was another house, I think?—A. Above that there was a similar deck-house, built upon the upper promenade deck, which contained cabins, and the music room.

6579. Q. And upon the boat-deck above there was a deck-house for the captain and officers and the chart-room and wheel-house?—A. Yes.

6580. Q. And the second-class accommodation, where was that?—A. That was on the main and upper decks, at the aft end of the ship, and along the starboard side of the upper deck.

6581. Q. And the accommodation for the engineers?—A. Was on the port side of the upper deck.

6582. Q. And also rooms, officers' mess-rooms, and lavatory?—A. Yes.

6583. Q. And the third-class accommodation was forward, I think?—A. Yes, upon the lower and main decks.

6584. Q. And the large dining saloon was amidships?—A. Yes, on the main deck.

6585. Q. And the smoke-room, ladies' room, accommodation, and shelter promenade, on the upper deck, and an open promenade on the shelter deck forward?—A.. That is right.

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6586. Q. Now, about the third-class entrances from the shelter deck, how were they arranged?—A. They were arranged at the aft end of the forecandle, the doors opening out on to the open promenade space on the shelter deck. From that the stairways went down to the covered promenade on the upper deck, and from that space connected with the accommodation quarters on the main deck and lower deck.

6587. Q. And the firemen's quarters?—A. On the upper deck, on the port side.

6588. Q. Aft?—A. Yes, aft.

6589. Q. With a stairway to an open space on the shelter deck?—A. Yes.

6590. Q. To the aft part of the shelter deck?—A. Yes.

6591. Q. Where were the berths of the crew?—A. The seamen and firemen were berthed forward under the forecandle, and the stewards on the port side of the upper deck amidships.

6592. Q. Then there was a fore-and-aft working passage, I think, from end to end of the ship, on the port side of the upper deck?—A. That is right.

6593. Q. Now, do any of the plans which you have handed in show the location of the companion ways, are they marked there?—A. Yes, the lithographed plan of the accommodation indicates the exits and ladder-ways.

6594. Q. Now, water-ballast tanks—how was the vessel fitted out with regard to those?—A. She had a cellular double bottom extending from the collision bulkhead forward nearly to the stern of the ship, with a total capacity of between 1,700 and 1,800 tons of water.

6595. Q. The tanks were subdivided transversely?—A. Yes, and by a water-tight division along the middle line of the ship.

6596. Q. Describe the general construction of the cellular double bottom, length, height, and capacity in tons?—A. Well, I will have to turn to a plan to get that information, I think.

6597. Q. Very well.—A. The cellular double bottom extends from a point 35 feet aft of the stem to a point 54 feet forward of the stern post, and it was four feet six inches in depth, and 47 feet in breadth at its widest part.

6598. Q. And what about the capacity?—A. The total capacity was 1,522 tons.

6599. Q. Now, was there also a deep water ballast tank in the compartment immediately forward of the bunkers?—A. Yes, No. 3 hold, up to the level of the lower deck, was fitted as a deep ballast tank and contained 1,950 tons.

6600. Q. With a water-tight middle line bulkhead?—A. Yes.

6601. Q. Very good. Now, about the water-tight bulkheads, will you state how the ship was provided with regard to those?—A. There were in all 10 water-tight bulkheads, dividing the ship into eleven water-tight compartments.

6602. Q. Will you please let us have them in detail?—A. Well, bulkhead No. 1 was on frame 229, at a distance of 34½ feet abaft the bow.

Bulkhead No. 2 was on frame 211, 40½ feet abaft No. 1 bulkhead.

Bulkhead No. 3 was on frame No. 189 and was 49½ feet abaft No. 2 bulkhead.

6603. Q. Pardon me a moment, bulkheads Nos. 1 and 2, had they any doors in them?—A. None whatever.

Bulkhead No. 4 was on frame 166, and was 51½ feet abaft bulkhead No. 3.

6604. Q. You have spoken of bulkhead No. 3 already?—A. Yes.

6605. Q. Were there any water-tight doors in bulkhead No. 3?—A. Yes, in bulkhead No. 3 there were two doors at the main deck level.

6606. Q. One on the port side and one on the starboard side?—A. Yes, one on the port side and one on the starboard side.

6607. Q. And the dimensions of these doors?—A. Six feet six inches by three feet.

6608. Q. What sort of doors were they?—A. Horizontal sliding doors.

6609. Q. How were they operated, and from where?—A. Operated by gearing from the upper deck level.

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6610. Q. Now, that brings you to bulkhead No. 4?—A. Yes. Bulkhead No. 4 was on frame 166, $51\frac{3}{4}$ feet abaft bulkhead No. 3.

6611. Q. And what about doors in bulkhead No. 4?—A. In bulkhead No. 4 there were two horizontal sliding doors at the main deck level, and one horizontal sliding door at the lower deck level.

6612. Q. The same size?—A. The one on the lower deck level was six feet by three feet, but those on the main deck level were 6 feet 6 inches by 3 feet.

6613. Q. And what about bulkhead No. 5?—A. Bulkhead No. 5 was on frame No. 127 and was situated $87\frac{3}{4}$ feet abaft bulkhead No. 4.

6614. Q. And that one was stepped forward, was it not?—A. Yes, it was stepped forward between the main and upper decks to frame 138.

6615. Q. And then carried up?—A. Yes, and then carried up in that frame to the upper deck.

6616. Q. A passageway connecting that with the aft boiler-room?—A. Yes, that passageway extended from the bulkhead to the fore-side of the aft boiler-room, and there was a water-tight passage forming part of the bulkhead and having a water-tight door at the aft end.

6617. Q. State what doors there were in No. 5 bulkhead?—A. In the upper part of it, in frame 138, there were two horizontal sliding doors, 6 feet 6 inches, by 3 feet, at the main deck level.

6618. Q. One on each side?—A. Yes, one on each side. Then at the lower deck level, between the upper coal bunkers of the forward boiler room and the upper coal bunkers of the aft boiler room were two horizontal sliding doors, each six feet by three feet, one to port and one to starboard. And at the aft end of the tunnel to the aft boiler room was one vertical sliding door 5 feet 6 inches by two feet, on the centre line.

6619. Q. A pipe passageway?—A. Yes, there was also a steam-pipe passage extending from the bulkhead to the fore side of the aft boiler room which passage was water-tight.

6620. Q. Now, let us come to No. 6 bulkhead.—A. No. 6 bulkhead was on frame No. 88.

6621. Q. And forming the aft end of the aft boiler-room?—A. Yes, it divided the aft boiler-room from the engine-room. It had a recess forward to frame No. 90, a distance of 4 feet 6 inches. The main part of the bulkhead was $87\frac{3}{4}$ feet abaft No. 5 bulkhead.

6622. Q. It was stepped aft on the main deck and carried up to the upper deck?—A. Yes, on one side there was a small recess aft to frame 82, and then two doors in that bulkhead on the main deck level, on frame 82, one horizontal sliding door, six feet six inches by three feet, on the starboard side, in the main bulkhead in the lower deck level, two horizontal sliding doors, 6 feet by 3 feet, and at frame 90, at the stokehold level, one vertical sliding door, 5 feet 6 inches by two feet.

6623. Q. Is that the one that communicated with the engine-room?—A. Yes.

6624. Q. And now, No. 7 bulkhead?—A. No. 7 bulkhead formed the aft end of the engine room and was on frame 57 from the keel to the orlop deck. It was then stepped forward to frame 65, in which frame it continued to the upper deck.

6625. Q. And is there a water-tight door?—A. Yes, at the orlop deck level. The lower part of that bulkhead is situated $69\frac{3}{4}$ feet abaft No. 6 bulkhead.

6626. Q. Well what water-tight doors are there?—A. In the lower part of it there was one horizontal sliding door five feet by two feet one inch, and in the upper part, the main deck level, on frame 65, two horizontal sliding doors, 6 feet 6 inches by 3 feet.

6627. Q. From where were those operated?—A. From the upper deck.

6628. Q. Were all those doors operated from the upper deck?—A. Yes.

6629. Q. Now take bulkhead No. 8?—A. Bulkhead No. 8 is on frame No. 47, $22\frac{1}{2}$ feet abaft No. 7 bulkhead.

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6630. Q. What about the water-tight doors?—A. It had two horizontal sliding doors on the main deck level, 6 feet 6 inches by 3 feet, and two horizontal sliding doors in the hold, 5 feet by 2 feet 1 inch, leading to the shaft tunnels.

6631. Q. That bulkhead was also stepped forward with a water-tight flat?—A. Yes, one frame space.

6632. Q. And carried up to the upper deck?—A. Yes.

6633. Q. And No. 9 bulkhead?—A. No. 9 bulkhead was in frame No. 29, 40½ feet abaft No. 8, and had two horizontal sliding doors at the main deck level.

6634. Q. And No. 10?—A. No. 10 was on frame 14, and stepped aft to frame 5, and was 33¾ feet abaft bulkhead No. 9, and 31¾ feet forward of the stern.

6635. Q. Were there any doors in that bulkhead?—A. Yes, at the orlop deck level there was one horizontal sliding door 4 feet by 2 feet.

6636. Q. On the port side?—A. One foot on the port side, giving access to the steering compartment.

6637. Q. And that was the only door in this bulkhead?—A. Yes.

6638. Q. And what was the size of the doors in bulkhead No. 9?—A. Six feet 6 inches by 3 feet.

6639. Q. Now, have you described these doors as we went along, Mr. Hillhouse—they were sliding doors, you have stated, and were all worked from the upper deck?—A. Yes.

6640. Q. Well, would you describe what the operation would be from the upper deck to close these doors or to work them?—A. Well, on the upper deck, there were keys or handles which had to be fitted to the square ends of shafting and turned around by hand. These shafts work toothed wheels which gear with a rack upon the door, and push the door along horizontally.

6641. Q. How long would it take to close one of these doors?—A. I have no idea.

6642. Q. Well you know whether it would take five minutes or half an hour?—A. Nearer five minutes than half an hour.

6643. Q. Would they close as slowly, for instance, as a window in your cabin screws up when you try to fasten that?—A. Well, I can't tell you. I have never tried to shut a water-tight door, personally.

By Lord Mersey:

6644. Q. You say you don't know the time it would take to close all these doors?—A. Mr. Newcombe asked my how long it would take to close one door.

6645. Q. Yes, how long would it take, say at the slowest?—A. I can't tell that, my Lord. I don't know how long it takes to close these doors.

6646. Q. Well, it doesn't take a week, I suppose?—A. No, sir, not a week.

6647. Q. Well, can you give us any idea?—A. I should think it would be done within five minutes, if not sooner.

By Mr. Newcombe:

6648. Q. And each door has to be closed by an independent operation?—A. Yes.

6649. Q. Each one has its own separate gear, and has to be closed separately, the same as you would have to close each one of these windows separately, if they were opened?—A. Yes.

By Lord Mersey:

6650. Q. And as I understand it, a man on board the ship has to be appointed to each door?—A. At least one man.

6651. Q. And there is a man, or there is supposed to be a man on the ship to close each door? He has a particular door to deal with?—A. Yes, my Lord.

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6652. Q. There is one man, at all events, for each door, and that man knows which door is his?—A. Yes, that is a matter of which personally I have no knowledge, it belongs to the discipline of the ship.

6653. Q. But that is only what should be done, and you believe that to be the practice?—A. Yes, so I understand.

By Mr. Newcombe:

6654. Q. And these keys, to open and close these doors, would be located in the ship immediately on top of the door, I suppose?—A. Well, in close proximity to the door.

6655. Q. In close proximity to the vertical line?—A. Yes, it might not be able to go straight up in every case, but very nearly straight up.

6656. Q. Can you tell me whether these bulkheads were built in compliance with the representations of the bulkhead committee of the '91 Board of Trade?—A. Yes, the specification calls for the ship to be subdivided in accordance with those recommendations for a low draught of 27 feet 6 inches, and the ship was so built and subdivided.

6657. Q. The plans handed in, I suppose show these particulars that you have given us?—A. Yes.

6658. Q. Are you sure these particulars do appear on the plans which have been handed in, as otherwise a plan should be produced showing them?—A. Well I know that they were marked upon certain copies of these plans, but if you like I will check them all over and make certain of that. I will do that during the luncheon hour.

6659. Q. I wish you would, Mr. Hillhouse.

By Sir Adolphe Routhier:

6660. Q. Is it possible to close the doors when the water is coming in?

The WITNESS.—Do you mean while the water is passing through the opening?

6661. Q. When the water is coming in?—A. Yes.

6662. Q. It is possible?—A. It should be possible to shut the doors even if water is passing through the doorway.

6663. Q. Supposing an order is given to close the doors, how long would it take to close all the doors?—A. I cannot tell you that. That information I think can be got better from the officers of the ship who have actually performed the operation.

By Lord Mersey:

6664. Q. If all the men were at their respective doors at the same time, then all these doors can, as I understand it, be closed in about five minutes?—A. Yes.

6665. Q. That is right?—A. Yes, my Lord, but as I say I have not seen them actually shut them, and I don't actually know in what time they can be shut.

By Mr. Newcombe:

6666. Q. This system you have described of working these doors separately by hand, by individual stewards, is that still the practice in the construction of ships of this class?—A. That is the practice in the majority of ships.

6667. Q. They have different apparatus in some ships, have they not?—A. Yes, there are now three or four different systems by which the doors can be simultaneously closed from the bridge.

6668. Q. Closed from the bridge?—A. Yes, by hydraulic or electric power.

By Chief Justice McLeod:

6669. Q. By one man?—A. Yes, by one man.

By Lord Mersey:

6670. Q. That is the very latest system?—A. Yes, my Lord, that has only developed within the last few years.

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By Mr. Newcombe:

6671. Q. That is an invention developed since this vessel was constructed?—A. Yes, my Lord.

By Chief Justice McLeod:

6672. Q. I suppose that can be applied to any ship?—A. Yes.

By Mr. Newcombe:

6673. Q. Now, Mr. Hillhouse, will you speak about the gangway and reserve coal and cargo doors?—A. Yes.

6674. Q. They were fitted in the ship's side?—A. Yes, a number of coaling ports and passenger entrance doors and cargo doors fitted in the side plating of the ship.

6675. Q. Are they shown on the plans?—A. I think they will appear on the lithographed plan of the accommodation.

6676. Q. How were those doors secured?—A. The coaling ports are secured by studs screwed up from outside the ship. The passenger gangways and cargo-doors are secured by what we call strong-backs, and screws from the inside of the ship.

6677. Q. Those would be between the upper and main deck and the shelter deck, I suppose?—A. Yes, the majority of them are between the main and the upper decks. There is one forward between the upper deck and the shelter deck, and one forward of the forward funnel, between the shelter and the lower promenade deck.

By Lord Mersey:

6678. Q. Are there any blue prints which you have produced of the shelter deck and the upper deck?—A. No, my Lord, I regret that all that I have in that connection are the working plans of the ship, which are somewhat the worse for wear. It would take some days to get tracings and blue prints made of those, but that could be done.

6679. Q. How is it you haven't blue prints of those from the shelter deck to the main deck?—A. The blue prints of the other decks were made from plans in the possession of the owners. But for some reason that I cannot explain, they had no tracings of the upper decks.

6680. Q. Are there any plans prepared of the curves of buoyancy and stability?—A. Yes, I have a plan with me.

6681. Q. They are all mentioned as being plans which should have been in existence before the work was started?—A. Yes, I have such plans with me, my Lord.

6682. Q. Then I think you had better produce them. Where are they?—A. They are here, my Lord, I think. No, the only one I have with me at the moment shows the curve of stability of the vessels at the time of the accident.

6683. Q. What is this?—A. The curve of stability of the vessel at the time of the accident.

6684. Q. But that is not what I was asking?—A. The other plans are in the hotel, and I can bring them in the afternoon.

6685. Q. Very well, bring them please. I understand this is the curve which you have made for the purpose of this case?—A. Yes, my Lord.

6686. Q. This, I suppose, is the curve immediately before the accident?—A. Yes, my Lord.

6687. Q. Is that when all the ports are closed?—A. Yes, my Lord.

6688. Q. Before the accident?—A. Yes, before the accident.

LORD MERSEY.—You had better mark this?

(The plan is marked as Exhibit Z.)

By Mr. Newcombe:

6689. Q. Now, speaking with reference to the arrangement of the boat deck, at the time of the construction of the vessel in 1906—you understand I am referring

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to the time of original construction, for I believe that the boats were enlarged since then?—A. They were increased, yes, later on.

6690. Q. The numbers and positions of the davits and boats and approximate weight, according to the original construction—can you give us that?—A. Yes, there were upon the boat deck level 14 steel lifeboats, and upon the level of the lower promenade deck two more steel lifeboats, making 16 lifeboats in all. Each of them would have a weight of about two and a half tons.

6691. Q. And these boats were distributed equally on each side of the ship, I suppose?—A. Yes, eight upon each side of the ship.

6692. Q. Under davits?—A. Yes.

6693. Q. Now, do you know what, if any, alterations were made in the number of the davits and the boats since 1906?—A. I understand that no additional davits were provided, but the davits were lengthened so as to raise the steel boats, and below each steel boat was placed one Englehart collapsible boat. In addition four collapsible boats were placed between the aft pairs of steel boats; and the four or six Berthons on the aft deck amidships.

6694. Q. And you understand the ship carried that additional equipment upon her last voyage?—A. Yes.

6695. Q. Now, can you give the approximate weight on the boat deck?—A. Well, I estimate that the additional weight would be about 80 tons.

6696. Q. Eighty tons additional weight?—A. Yes.

6697. Q. Over and above that in respect of which the construction was originally made?—A. Yes.

6698. Q. Now, what effect would that additional weight on top have with regard to the stability of the ship?—A. Dealing with the stability of the ship, immediately before the accident, it would have the effect of reducing the metacentric height by two inches.

6699. Q. The original metacentric height you have not stated what that is?—A. No, it was $40\frac{1}{2}$ inches.

6700. Q. And this additional weight, you say, lowered that?—A. Yes, if the extra boats had not been placed upon the boat-deck it would have been $42\frac{1}{2}$ inches.

By Lord Mersey:

6701. Q. Is that an element of insecurity?—A. Every reduction of the metacentric height reduces the stability of the ship.

6702. Q. That is what I meant. Then the placing of these additional life boats on the deck of the ship tended, to some degree, whether it is very much or not, to diminish the stability of the ship?—A. Yes, my Lord.

By Mr. Newcombe:

6703. Q. Now, would you say whether it tended to do so to a dangerous degree?—A. Not in my opinion.

6704. Q. Have you any doubt about that?—A. No doubt.

6705. Q. Now, at the time of the construction of the vessel, did you make any calculations to arrive at her floating capacity, assuming one or more compartments to be filled with water?—A. Yes.

6706. Q. Will you state what conclusions you came to from those calculations?—A. Well, the conclusion that we came to, in conjunction with the Board of Trade, was that the bulkheads were so placed that any two adjacent compartments might be simultaneously filled, without sinking the ship below the margin of safety line, which is a line drawn at a short distance below the upper deck. That is the condition laid down by the bulkhead committee of 1891.

6707. Q. So that she might have any two compartments flooded——

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LORD MERSEY.—He said: any two adjacent compartments.

Mr. NEWCOMBE.—Yes, my Lord.

6708. Q. Well, she might have any two adjacent compartments flooded and still comply with those requirements of safety?—A. Yes.

6709. Q. Now, the two boiler rooms extend nearly one-third the length of the ship?—A. Yes, their total length is 175 feet.

6710. Q. Now, supposing the bulkheads between those two rooms to have been destroyed, and the two compartments should be filled with water, and the water-tight doors closed, would the water be confined to these two spaces?—A. Yes, sir.

6711. Q. And would the vessel float?—A. Yes, sir.

By Chief Justice McLeod:

6712. Q. Suppose the water-tight compartments are filled, these two, would the water filling these two water-tight compartments have a tendency to list the vessel to her starboard side?—A. Yes—well, that would depend entirely upon the manner in which these compartments were filled. If it be assumed that they were filled centrally, so the water flowed equally to each side, then it would not tend to incline the vessel.

6713. Q. But take the case just as this happened here, where they are filled through a hole in the starboard side?—A. Well, in that case, it is of course inevitable that the water shall be upon the side of the ship which is struck before it can reach the other side. In that case, a listing effect would be produced.

By Lord Mersey:

6714. Q. As we are told it was?—A. Yes, my Lord.

By Mr. Newcombe:

6715. Q. Now, supposing these two compartments filled, what additional immersion would follow?—A. Supposing the ship remained upright, the water would rise to a point about half-way between the main and upper decks.

6716. Q. That would take her down how many feet, can you say?—A. It would take her down 9 feet 3 inches.

By Lord Mersey:

6717. Q. It would put her down in the water 9 feet 3 inches lower?—A. Yes.

By Mr. Newcombe:

6718. Q. And therefore below the line of the lower tier of port-holes?—A. Yes.

6719. Q. Now again, supposing the vessel loaded to her low draught, what amount of list would she require to take before the lower line of port-holes was immersed?—A. A nine degree inclination would bring the lower row of ports under.

6720. Q. The lower row would be below in any case with the two compartments filled?—A. Do you mean after she was sunk the nine feet three inches?

6721. Q. Now, as I understand you, supposing she sank on an even keel by the effect of the filling of these two large compartments with water, that would bring the line of her lower ports down below the water level?—A. Yes, that would immerse them.

6722. Q. So assuming that to have happened, you do not need any list to bring those port-holes under water?—A. No.

6723. Q. Supposing the ship to be tight, and that you could take hold of her mast-head and pull her over nine degrees, that would put this lower line of ports under water?—A. Yes.

6724. Q. And how much of a list would put the tier of ports immediately above that under water?—A. It would require a list of 18 degrees.

6725. Q. Now, of course, you have been here, throughout the conduct of this case, Mr. Hillhouse?—A. Yes.

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6726. Q. And no doubt have considered the subject very carefully. It is certain the vessel began to list and listed heavily?—A. Yes.

6727. Q. Immediately after the accident?—A. Yes.

6728. Q. Can you give us any explanation as to why that happened?

By Lord Mersey:

6729. Q. I think you have explained to us that if the flooding of these two compartments took place from the side, such a flooding would make the ship list?—A. Yes, my Lord.

6730. Q. If you introduced the water as an even keel, so that the water introduced spread itself to the port and starboard sides equally, there would be no list?—A. No, my Lord.

6731. Q. Then the list came about in the first instance through the water coming in from the starboard side of the ship?—A. Yes, my Lord.

By Mr. Newcombe:

6732. Q. I suppose you know ships of the type of the *Etruria* and *Campania*?—A. Yes.

LORD MERSEY.—Now, Mr. Newcombe, what about rising? I don't want to hurry you.

MR. NEWCOMBE.—I have only one or two questions more to put to Mr. Hillhouse, it won't take me very long.

LORD MERSEY.—Well, what do you mean when you say not very long, because there are circumstances that make it desirable to adjourn now.

MR. NEWCOMBE.—Well, I think I might take about ten or fifteen minutes more, my Lord.

LORD MERSEY.—Then, if you do not mind, I think we will have those ten or fifteen minutes after we come back.

The court then adjourned until half-past two o'clock in the afternoon.

The court resumed at 2.30.

PERCY HILLHOUSE (examination resumed).

By Mr. Newcombe:

6733. Q. It has been stated that the draught of the vessel on leaving Quebec was 26 feet 10 inches forward and 28 feet 10 inches aft —A. Yes, sir, that is correct.

6734. Q. That would be in fresh water?—A. In fresh water.

6735. Q. How much would she rise in salt water?—A. About 7 inches due to the difference between fresh and salt water and another difference due to the consumption of coal and fresh water and stores of about 2 inches, a total of 9 inches.

6736. Q. So that at the point of sinking that gives you a variation of 9 inches?—A. Yes, 21 feet 1 inch forward and 27 feet 11 inches aft, a mean of 27 feet.

6737. Q. We were speaking about the listing of the ship and I think you had explained that if water began to come in in quantity on one side of the ship the tendency would be for her to list towards that side?—A. Yes.

6738. Q. I suppose that once a ship begins to list to starboard there is an inclination to increase that list by any additional weight of material on that side?—A. It would necessarily increase the list. She could come back to the upright provided the free water was not more than a certain amount.

6739. Q. This ship, of course, did not come back?—A. That is so.

6740. Q. The list appears to have increased after she tipped over. Can you say whether a top weight on the boat deck would accelerate the list of the ship having

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regard to the fact that she had taken water on the starboard side?—A. Yes, the top weight certainly does accelerate the list.

6741. Q. I should like to know if a ship of this sort which comparatively might be described as more like a river boat than a sea-going ship—I mean there is a considerable amount of deck structure on her, is there not, comparing her with a ship like the *Etruria* or the *Campania*?—A. Compared with the *Etruria* or the *Campania*, there is more deck structure but not in comparison with many other modern vessels.

6742. Q. If you had a ship like the *Etruria* receiving an injury like this one, would you expect it would lose its balance and tip over as the *Empress* did?—A. Yes, because the *Etruria* did not have so much stability as the *Empress* had.

6743. Q. To look at her you would suppose that the *Empress* would upset very easily, would you not?—A. Yes, but in looking at the top one only sees the height of her; one does not get any idea of how much weight is below water or what the breadth of the ship is.

6744. Q. Have you any opinion to offer as to the cause of the vessel sinking so quickly?—A. Yes, I can give an opinion or a surmise, but in the absence of more definite information as to the damage done to the starboard side of the vessel or as to the exact condition of the water-tight doors and side lights it is impossible to give any accurate statement of what the sequence of events was.

6745. Q. You have an opinion as to what probably happened, I understand?—A. Perhaps first I might explain as concisely as I can on what the element of the stability of a ship depends. In the condition when the side of the ship is slightly inclined one side is pushed down in the water and the other side is raised above the water. The side which is pushed down calls into play the force of the buoyancy which tends to push that side up again. The side that is drawn out of the water loses buoyancy and that which was formerly supported by the buoyancy is now unsupported. The transference of the buoyancy from the high side to the low side of the ship is what the ship relies upon to come back to upright. If, on the other hand, there is anywhere inside the ship a weight of any kind which will move across to the low side of the ship, such weights perhaps being coal or grain or loose water, then there is a transference of weight from the high side to the low side and that transference of weight is in opposition to the transference of buoyancy. During the life of the ship there is a conflict between the buoyancy of the ship and the shifting weight. Ordinarily there is always some loose water, in the fresh water tanks and in the feed water tanks. But the stability of the ship is such that the transference of weight is not of serious consequence. But if any large quantity of loose water comes into the ship then the transference of weight becomes much more serious and stability may be seriously reduced. In the case of the *Empress* calculations show that she could withstand the amount of water contained in the two boiler-rooms. But if in addition to that there should have been anywhere more free water then her stability would be reduced and become negative and the ship would heel over and ultimately capsize. In my opinion in this case water has found its way into other compartments than the two boiler-rooms partly through water-tight doors and partly through side lights and I think that was the cause of her heeling over and finally foundering.

By Chief Justice McLeod:

6746. Q. In your opinion the watertight doors would not be closed, neither would the ports?—A. No, I think there has been no evidence that states that all of these were closed.

By Lord Mersey:

6747. Q. Would one or two port holes being open allow the water to run in rapidly enough to sink the ship?—A. As to the time I cannot give any opinion, but

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any water entering the ports would inevitably gather on the starboard side, heel the ship down on that side and cause more water to come in.

By Mr. Newcombe:

6748. Q. In your statement of the metacentric height of the vessel at the time of construction did you have regard to the ballast tanks as full or empty?—A. The water ballast tanks were all full.

6749. Q. There is a question submitted which I wish you would listen to: In the actual design and construction of the *Empress*, what special provisions, if any, were made for the safety of the vessel and the lives of those on board in the event of collision and other casualties?—A. That is question three which I was to answer. The special provisions made were, first of all, the following out of the recommendations of the Bulkhead Committee. The adoption of these recommendations was purely optional on the part of the owners; it was not required by law at that time. That, therefore, may be called a special provision for safety. In addition to that there was the usual provision of wireless telegraphy, submarine signalling and lifeboat accommodation for everybody on board.

LORD MERSEY.—Have you any questions to ask, Mr. Aspinall?

MR. ASPINALL.—I think it would be fairer, in the event of Mr. Haight having any questions to put to this witness—I do not know that he has—that he should put them before I ask the witness any questions. He is really our witness. We have placed him at the disposal of the Board of Trade and I submit it would be only right that I should come last.

By Mr. Haight:

6750. Q. According to my computation, Mr. Hillhouse, there are in all twenty watertight doors in your ship?—A. Twenty-four.

6751. Q. All of these have doors through them except the first two?—A. You are talking of bulkheads or doors.

6752. Q. All of the watertight bulkheads have doors through them except numbers 1 and 2?—A. Yes.

6753. Q. Was Dr. Francis Elgar, before or after he designed this vessel, the chairman of the Fairfield Company—the company that built this boat?—A. Yes. he was.

6754. Q. When was he chairman?—A. He was chairman, I think, some years before he designed this vessel.

6755. Q. How long before he made the designs of this vessel was it that he ceased to be the chairman?—A. Very shortly before.

6756. Q. Were you familiar with the design of the vessel before she was built?—A. Yes.

6757. Q. You worked with him on the plan, did you not, Mr. Hillhouse, yourself?—A. Which plan do you mean?

6758. Q. The plans of the *Empress of Ireland*?—A. Yes.

6759. Q. You are then familiar with any innovations that were made in the construction of this vessel?—A. Yes.

6760. Q. Were there not some departures from ordinary ship designing made when these plans were drawn?—A. Yes.

6761. Q. Is it not unusual for a merchant vessel to have a rudder which is entirely submerged?—A. Yes, there are not many merchant vessels with such rudders.

6762. Q. Were not the two *Empress* boats practically the first large merchant vessels that were built from this design?—A. No, before that the *City of Paris* and the *City of New York* had practically similar rudders.

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6763. Q. Is it not true that the lines at the stern of the two *Empresses* were very much fuller than the lines usually are at the stern of such vessels?—A. They were a little fuller, but not **very much**.

6764. Q. How much fuller would it be on the *Empress* than is usual, or was usual, with merchant vessels at the time these designs were made?—A. It is difficult to give any measure of fullness; say roughly, perhaps, at 30 feet from the stern the water line may have been one foot broader on each side.

6765. Q. Is it not true that for thirty or forty feet from the stern, the lines of the two *Empress* boats are distinctly fuller than its usual on merchant vessels?—A. It is exceedingly difficult to answer that question, because merchant vessels are built all degrees of fullness.

6766. Q. How many designs had you worked on before you actually worked on the designs of this vessel?—A. Perhaps five or six large vessels.

6767. Q. Since that time you have worked on the designs of many large vessels?—A. Yes.

6768. Q. Is it not true that the lines of the *Empress* for about 40 feet from the stern were fuller than any boat you had ever worked on before?—A. No, it is not the case.

6769. Q. I mean any boat that is a merchant vessel, that is designed as a passenger boat and similar in class?—A. No, I think if you will compare the lines of the *Empress* with the lines of any of these boats you will find that they are very similar.

6770. Q. Are you to-day building vessels with as broad a line at the stern as the *Empress of Ireland* had?—A. Yes.

6771. Q. Is it not true that a broad stern tends to cause eddies under the stern and has an effect upon the rudder?—A. It possibly has some effect, but at the same time we have built many ships with much fuller sterns than that of the *Empress* and no trouble has been experienced in their steering.

6772. Q. The tendency of the broad stern is to decrease the efficiency of your rudder?—A. Yes.

6773. Q. Is it not true that after the *Empress* was first built you found some difficulty with the rudder as originally designed?—A. On the trials of the vessel everybody was absolutely satisfied with her steering qualities. Some time later the fore part of the rudder got carried away accidentally and when that was being renewed advantage was taken of the change to slightly increase the area of the rudder.

6774. Q. What was the original area of the first rudder as designed?—A. I cannot tell you the exact area.

6775. Q. What was the original percentage of the area of your rudder as compared with the area of the immersed plane of your vessel?—A. That is largely a matter of opinion.

6776. Q. What is your opinion?—A. For such a ship as the *Empress*?

6777. Q. According to my understanding, among naval architects you figure the immersed plane of your vessel running the plane through the keel vertically?—A. Yes.

6778. Q. And there is some understood proportion which the rudder must bear to the submerged plane in order to give your vessel proper steerage?—A. That proportion varies according to the type of vessel from, perhaps, in the case of cruisers, 1-40th of the immersed area down to about 1-100th part in the case of cargo vessels.

6779. Q. What was the proportion of the area of the original rudder of the *Empress*?—A. I am sorry I do not know that figure, Mr. Haight.

6780. Q. Do you know if it was less than one per cent?—A. No.

6781. Q. Will my plan enable you to tell that?—A. Yes, I could check that.

6782. Q. I wish you would. When you put in your new rudder how much did you increase the area?—A. As far as I remember there was about one foot in breadth added to the back edge.

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6783. Q. Is it not true that your reason for increasing the area of your rudder was because complaint had been made that the *Empress* did not steer well?—A. The reason, as I understand it, was that they wanted to improve her steering qualities, but she had previously to that, on trials in our hands, steered very well indeed.

6784. Q. But on practical trial, as operated on the line, complaint had been made; is that not true?—A. Well, if so, I did not hear of it.

6785. Q. You heard enough to know that they wanted her to steer better?—A. Yes.

6786. Q. Will you please tell me when that change in the rudder was made?—A. I think about 1908, but I do not know the exact date.

6787. Q. Was a similar change made in the rudder of the *Empress of Britain*?—A. Yes, I think so.

6788. Q. She had not had an accident?—A. No.

6789. Q. Did you yourself draw the designs, or work upon the plans of the larger rudder?—A. It was done in the drawing office under my supervision.

6790. Q. Was your attention ever called to the fact that any of the masters of the Canadian Pacific Railway Company, after you had made the changes in the rudders of both boats, still complained about their steering qualities?—A. No, I heard no complaints.

6791. Q. Directly or indirectly?—A. Directly or indirectly.

LORD MERSEY.—Will you ask him whether before the alterations in the area of the rudder, he had had, or heard of, complaints from the masters of either one of the two ships?

By Mr. Haight:

6792. Q. Had you, before the changes were made, heard of complaints of that character from the captain of either of these boats?—A. No, sir, but from the fact that the owners desired to take advantage of the accident to increase the area of the rudder, I assumed that they thought her qualities might be improved.

6793. Q. Your position would not be such that complaints of the officers would come to you?—A. No.

6794. Q. Will you tell me what the displacement of the *Empress of Ireland* was at a draught of 27 feet 6 inches mean?—A. I could give the displacement exactly at the time of the accident if that is perhaps more to the point?

6795. Q. Yes, that is what I really want.—A. 18,750 tons.

6796. Q. What do you figure to have been the actual draught forward and aft of the *Empress* at the moment of the collision?—A. 26' 1" forward, 27' 11" aft.

6797. Q. And that allows for how much rise after leaving Quebec?—A. Nine inches.

6798. Q. Have you figured on the density of the water at Father Point?—A. Yes.

6799. Q. Do you know whether any accurate test has been made?—A. No; I assume that the water at Father Point is salt water and at Quebec fresh water.

6800. Q. Would you call Quebec absolutely fresh?—A. Yes.

6801. Q. And Father Point absolutely salt?—A. Yes.

6802. Q. Is it not true that the current running down affects considerably the density of the water as far down as Father Point?—A. That I do not know.

6803. Q. As I understand, according to your computation at the time of the accident, the metacentric height was 40½ inches and it was only 42½ inches as originally designed?—A. Yes.

6804. Q. Is the metacentric height affected by the conditions of stowage and such conditions?—A. Yes, certainly.

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6805. Q. What have you assumed to be the disposition of your cargo, supplies, and so on?—A. I got a note of the actual disposition of the cargo from Capt. Walsh and I have taken that in my calculations.

6806. Q. You know whether it was on the lowest deck or on certain decks or where it was?—A. Yes, I got a complete diagram.

6807. Q. LORD MERSEY.—Do you want that statement?

Mr. HAIGHT.—I have no doubt it is accurately taken.

Mr. HILLHOUSE.—Capt. Walsh has the original document and he could give you a copy.

LORD MERSEY.—Have you a copy, Capt. Walsh?

Capt. WALSH.—The original documents are handed in, my Lord; our solicitors have the original documents. I have a copy at the office.

LORD MERSEY.—Have you a copy of it, Mr. Haight? Show it to Mr. Haight and let him tell me if it is a document of importance. (A copy of this document was handed to Mr. Haight.)

Mr. HAIGHT.—I may be posing as a naval architect but it is really a pose; I can no more tell you whether it is important by looking at it—this will be of no use to us unless we know the weights of each class of cargo stowed.

LORD MERSEY.—Where do you propose to get that from?

Mr. HAIGHT.—I do not propose to get it anywhere.

By Lord Mersey:

6808. Q. Where are the weights?—A. (Witness.) They are all in Mr. Walsh's hands.

LORD MERSEY.—Have you the weights, Mr. Walsh? If so, give them to Mr. Haight.

Mr. HAIGHT.—I doubt if there is any reason for criticising the way in which the cargo was stowed.

LORD MERSEY.—What I want to know is this: Do you understand it?

Mr. HAIGHT.—I do to a certain extent. These figures indicate where the various classes of cargo and baggage were stowed and they indicate that the stowage was towards the bottom of the ship and this has a very important bearing on the stability of the ship.

LORD MERSEY.—They give the weight of the cargo that was in a particular place?

Mr. HAIGHT.—They indicate in a separate list the weights of each class of cargo.

LORD MERSEY.—Have you got it all?

Mr. HAIGHT.—Yes.

LORD MERSEY.—Have you realized the effect of it?

Mr. HAIGHT.—As well perhaps as I can. I should say that it appears to me to have been so stowed as to have increased the stability of the ship. They are ballast because they are towards the bottom. Just what effect that would have had in inches upon the metacentric height I am sure I could not guess.

LORD MERSEY.—I am very glad to hear you say that; it is a wise answer. I suppose these cargoes were stowed in Montreal or Quebec. They are stowed by stevedores and stevedores, I dare say, exercise their judgment by a rule of thumb more than anything else?

Mr. HAIGHT.—More or less, sir, yes.

LORD MERSEY.—I suppose they are people who know how to stow a vessel so as to make her fairly safe?

Mr. HAIGHT.—That is my experience unless in bad weather.

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LORD MERSEY.—That is my experience, but I do not profess to be able to criticise what stevedores do.

Mr. HAIGHT.—Ordinarily, in my experience the cargo does not shift except upon rare occasions.

LORD MERSEY.—Very rare. It must be very bad stowage or it must be very bad weather. Well, we will have these statements put in. (Stowage put in and marked Exhibit A-1; statement *re* stowage of cargo put in and marked Exhibit B-1.)

By Mr. Haight:

6809. Q. Will you refer to the passenger diagram, look at room 328 and tell me how many feet that room is distant from the closet bulkhead and whether it is forward or aft of the bulkhead?—A. The wooden partition upon which No. 328 is fastened is 15 feet 9 inches from the bulkhead between the two boiler rooms.

6810. Q. If we assume then that the stem of the *Storstad* touched the side of the *Empress* exactly in line with the wooden bulkhead the entire wound would have been aft of the bulkhead?—A. Not exactly, because the *Storstad* penetrated some distance—the wound spread out sideways and might very well cover the 15 feet 9 inches.

6811. Q. Have you examined the *Storstad*?—A. Yes, I looked at her.

6812. Q. From the examination which you have made how far do you think she penetrated inboard from the side of the *Empress*?—A. About eighteen feet. That is partly from an examination of the *Storstad* herself and partly from measurement of the model which was produced.

6813. Q. Did you take the beam of the *Storstad* 18 feet back from the stem?—A. Yes, I measured the breadth of the deck between the point of damage on the starboard side and the last point of damage on the port side and the breadth measures 28 feet.

6814. Q. Do you know, Mr. Hillhouse, that on the forecastle of the *Storstad* for a certain distance back everything had been swept clean as though that deck had gone under one of the decks of the *Empress*?—A. I was not able to see the forecastle deck of the *Storstad*.

6815. Q. Why not?—A. Because we were not allowed to go aboard and I did not care to climb on the top of buildings alongside. There was a watchman on the gangway who would not allow me to go on.

6816. Q. Did you explain who you were and what you wanted there?—A. No.

6817. Q. I am sorry you did not make application.—A. No answer.

LORD MERSEY.—You should have explained who you were. I should think they would be quite right to refuse to allow a stranger to go aboard.

By Mr. Haight:

6818. Q. Do you know Mr. Hill?—A. Yes.

6819. Q. Has he not been aboard?—A. I do not know.

6820. Q. Your computation as to the extent of the *Storstad's* penetration inboard of the *Empress* is not based upon any accurate observation made on board the *Storstad* herself?—A. No.

6821. Q. Questions have arisen, Mr. Hillhouse, in connection with Capt. Kendall's story as to the movement of the two vessels after the collision occurred. Capt. Kendall, for instance, indicates that actually the *Storstad* made an angle with the forward side of the *Empress* of about 7 points. Other witnesses gives the angle as being somewhat more acute by diagram. Assume if you will that the *Empress*, when the vessels came together, had some headway through the water and that the *Storstad* for some appreciable interval of time remained with her stem sticking into the wound and that her bow was swung to starboard, what effect would the position of the *Storstad* in the side of the *Empress* have upon the heading of the *Empress* as she moved forward?—A. Yes, if the *Storstad*

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stuck in and was gripped very tightly it would act as a retardation upon the starboard side and swing the *Empress* head to starboard.

By Lord Mersey:

6822. Q. Bring the *Empress* head to starboard?—A. Yes, to starboard; the *Storstad* would act as a drag upon her starboard side.

By Mr. Haight:

6823. Q. So long as she remained at all fast in the wound the natural tendency would be to swing the *Empress* to starboard?—A. Yes, on the assumption you have made and if there was no head motion on the *Storstad*.

6824. Q. The head motion of the *Storstad* would be taken up by the time it ceased to penetrate, would it not?—A. Yes.

6825. Q. So that from the time she had reached her maximum penetration and until she was swung clear she would operate as a starboard rudder?—A. Yes.

6826. Q. As I look at the diagrams, room 328 is almost mathematically the exact centre of the *Empress* calculating from stem to stern? Am I correct?—A. It must be very near to it; I have not measured it in that light.

6827. Q. Could you now satisfy yourself if that is true?—A. Yes. (Witness made measurement on accommodation plan). Yes, it is almost exactly in the centre.

6828. Q. If, therefore, the *Storstad* strikes the *Empress* at the angle indicated by Captain Kendall, or at a slightly more acute angle, opposite room 328 would there be any tendency resulting from the blow to swing the stern of the *Empress* one way or the other?—A. No, I think not.

LORD MERSEY.—Just put that again.

MR. HAIGHT.—The question was whether, striking the *Empress* at the dead centre that Captain Kendall indicates or at a slightly more acute angle, the blow delivered by the *Storstad* would tend to swing the stern of the *Empress* one way or the other. It would not, the witness says.

LORD MERSEY.—I do not understand that.

MR. HAIGHT.—Your Lordship remembers that Captain Kendall's story was that we struck him aft of amidships, turned his stern around and swung his bow to starboard.

LORD MERSEY.—I understood this witness to say just now that the *Storstad*, in the position in which he placed her, having regard to all the stories of the other witnesses, was acting as a rudder and would turn the stem of the vessel around to starboard.

MR. HAIGHT.—If the *Empress* were moving forward through the water.

LORD MERSEY.—Yes.

MR. HAIGHT.—Now, I am asking if the *Empress* were dead in the water. (To witness). Did you understand my question to be whether the blow would have taken her one way or another if the *Empress* were dead in the water?—A. Yes.

By Lord Mersey:

6829. Q. And you say it would not?—A. It would not.

Chief Justice McLEOD.—One question was based on the assumption that the *Empress* was moving in the water, and the other on the assumption that the *Empress* was dead in the water?

MR. HAIGHT.—Yes, my Lord. I was at fault in not making the question clearer. (To witness):

6831. Q. You are familiar, Mr. Hillhouse, with the effects upon a moving vessel of a reversed propeller? Assuming that the *Storstad* had a right handed propeller the

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tendency, if the propeller were reversed, would be to swing her bow to starboard, would it not?—A. A very slight tendency.

6832. Q. The tendency is not only slight but it does not really develop until the engines have been some little time running astern.—A. I understand that the tendency is slightly due to the rotation of the propeller and I would expect it to manifest itself immediately the propeller began to revolve.

6833. Q. Is it your experience that when a vessel is moving through the water and her engines are reversed her head immediately begins to swing to starboard or she hangs on her course for a short time then starts gradually and the swing increases? —A. I could not tell anything about that because I have had no experience in those matters or in the handling of ships.

LORD MERSEY.—Would not that depend very much upon the depth of the ship in the water, the weight of the cargo and considerations of that character?

Mr. HAIGHT.—A vessel that is dead light will swing more quickly.

LORD MERSEY.—That is what I mean.

Mr. HAIGHT.—I think the real explanation is that because she is dead light she is trimmed more at the stern; she would draw 7 feet forward and 15 feet aft. If the forward and aft draughts are approximately level it is difficult to make a fair running trim. Still, it is not very important. (To witness):

6834. Q. Captain Kendall was of the opinion, Mr. Hillhouse, that his vessel was absolutely dead in the water and that the effect of our reversing engines was so pronounced that we moved his entire ship ahead. Would any such effect as that be remotely possible as a result of a reversed propeller with a ship like the *Storstad* or any other ship?—A. The tendency, if any, would be exceedingly slight.

6835. Q. Do you know that the construction of the *Storstad* is not the usual construction but that she is one of the Isherwood class of vessels?—A. Yes.

6836. Q. Would you please state, for the benefit of the court what the Isherwood construction is?—A. Under the ordinary system of construction the frames which support the outside plating stand vertically at right angles to the keel. Under the Isherwood system they run longitudinally more or less parallel to the water line.

By Chief Justice McLeod:

6837. Q. That applies to the *Storstad*?—A. Yes.

By Mr. Haight:

6838. Q. A vessel built on that system has far more strength fore and aft than an ordinary vessel to withstand the impact of a collision?—A. Yes.

6839. Q. Every angle which ordinarily forms the ribs of the ship in cross-sections is on the Isherwood vessel run lengthwise?—A. Yes.

6840. Q. You are striking the ends of your strengtheners rather than the cross-section?—A. Yes.

6841. Q. Bearing in mind the construction of the *Storstad*, I will ask you to assume that when 100 feet away from the *Empress* she is coming so fast as to throw bow waves which can be seen at night in a fog by a man fifty feet above the water at a distance of 100 feet. Assuming that at that instant the *Storstad's* engines are reversed, the stem of the *Storstad* being only 100 feet away from the side of the *Empress* and that the *Storstad* has a dead weight cargo of coal of 10,400 tons, what would you think would be the penetration of a vessel travelling at that speed and so constructed if she hit amidships of the *Empress* practically in the unsupported boiler-room space? —A. I can give no idea as to what I would expect the penetration to be. It is not shown on the bow of the *Storstad* at all. It is one that it is impossible to make any calculations about.

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6841½. Q. Have you any idea that a vessel so constructed and driven at that speed would have gone at least half through the *Empress*?—A. I cannot tell.

6842. Q. Would you mind stating what your real opinion is? Assuming that it will not be scientific, it is not expected to be accurate.—A. I am not in a position to give any opinion at all. I have never studied collisions between ships, or seen the results of collisions.

6843. Q. Your boiler room space is the most sensitive part of your ship, is it not? The boiler room and engine room space?—A. Sensitive, in what way, Mr. Haight?

6844. Q. You get nearer to hitting into an empty box there than anywhere else; your decks do not run clear across the ship?—A. No, but that space is filled with the coal, a considerable weight of coal, just where the *Storstad* struck in this particular case.

6845. Q. But you do not have the strength which comes with decks that run clear across the ship?—A. The only deck missing in that part is the orlop deck, and that is replaced by one or two stringers.

6846. Q. If there is any difference, the place where the *Empress* was struck is weaker than places forward of the boiler-room or aft of the engine-room?—A. No, I think it would be stronger, because in the middle part of the ship the scantling is run across and the shell plating is thicker and the decks are thicker.

6847. Q. Will you please refer to your plans and tell me precisely how far inboard your boilers are on the starboard side? I want to know how far inboard the measurement would go when it just goes to the side of the boiler nearest the shell plating?—A. Nearest the shell plating, about 7 feet.

6848. Q. At the point where we are assuming the *Storstad* struck, abreast of room 328, what is the distance from the shell plating of the ship into the boiler, the starboard side of the boiler? Please look at your plans, and make an exact measurement.—A. Just at that particular point, Mr. Haight, there is no boiler, and 4 feet 6 inches after that we have a boiler whose side is about 15 feet from the vessel's side.

By Lord Mersey:

6849. Q. Tell me, Mr. Hillhouse, have you any plan to show the position of the boilers?—A. No, my lord.

6850. Q. Can we not have once for all a complete set of plans referring to this? I was just told that you are looking at a plan which is not yet in evidence.—A. This is a copy of the hull plan; the plan which is one of the exhibits was a plan produced by the Canadian Pacific Railway Company, and that plan did not show the boilers.

6851. Q. Is it not possible for us once for all to have a plan which relates to these things?—A. It would take some time to get copies made, My Lord; it can be done.

6852. Q. Do they not exist? Because if you could make copies there must be some originals?—A. These are the originals I have here.

6853. Q. Why not give us the originals; they would be better than copies.—A. Oh, I cannot leave the originals, my Lord.

6854. Q. Oh, yes, you can; the ship has gone down to the bottom you know; the plans are not of very much use except as curiosities. Can you leave the plans?

Chief Justice McLEOD.—We won't destroy them.

The WITNESS.—I should like to have copies made; I can leave them just now and get copies made later.

Mr. HAIGHT.—Do I understand that this drawing now becomes an exhibit?

LORD MERSEY.—Yes.

The WITNESS.—There will be quite a number of plans if I put them all in; this is only one of twenty or thirty plans.

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By Mr. Haight:

6855. Q. You have suggested, Mr. Hillhouse, that the bow of the *Storstad* might have touched the bulkhead something over 15 feet forward of room 328?—A. Yes.

6856. Q. Is it not true that the *Storstad* would necessarily have hit the boiler, which was only 4 feet 6 aft of that bulkhead, if she had penetrated 15 feet, especially assuming that the angle of contact was somewhat towards the stern?—A. If she penetrated 15 feet at a point 4 feet 6 forward of the boiler, then I think she would not touch the boiler.

6857. Q. Now, Mr. Hillhouse, 4 feet 6 aft of the door on which 328 was fastened, is the forward end of the boiler?—A. Yes.

6858. Q. You have already expressed the opinion that the *Storstad*, with her stem entering opposite that partition at an angle somewhat towards the stern—A. Towards the bow.

6859. Q. An angle towards the bow, or with her keel pointing towards the stern, might have struck and damaged a collision bulkhead 15 feet 9 inches forward of No. 328?—A. Yes.

6860. Q. If the deck and the bow of the *Storstad* is wide enough to injure something 15 feet 9 inches forward of 328, and we assume the stem starts to penetrate on the partition where 328 is, must not the port half of the stem of the *Storstad* hit your boiler, which is only 4 feet 6 inches aft of 328?—A. Not necessarily, because the point of the stem of the *Storstad* is a small point, whereas the breadth of the deck at the *Empress*' side is much wider.

6861. Q. But I understood you to state that the depth of penetration, according to your idea, was 18 feet?—A. Eighteen feet.

6862. Q. Now, do you think that the stem plate of the *Storstad* can rupture the side of the *Empress* directly in line with No. 328, penetrate 18 feet, and not touch a boiler which is 15 feet in from the side and only 4 feet 6 inches aft of No. 328?—A. Would you let me try it on the plan a minute; it is rather a difficult thing to answer. (Plan referred to by witness.) This little diagram shows that assuming that the stem of the *Storstad* entered the side of the *Empress* abreast of the partition upon which No. 328 was, at an angle slightly towards the bow, and penetrated the distance which I have said, 18 feet, it would simultaneously touch the bulkhead between the two boiler rooms and that single ended boiler.

6863. Q. And it would not only touch the boiler, but it would knock about 8 or 10 feet off the end of it, wouldn't it?—A. No, I do not think it would knock anything off the boiler; it would probably damage the *Storstad*.

6864. Q. Assuming that the *Storstad's* bow is strong enough to withstand it, how far would it go into the boiler, according to the measurements which you make?—A. About 2 feet; that is, supposing that the boiler was strong enough to penetrate the *Storstad* it would go in about 2 feet.

6865. Q. As I have listened to the testimony I have understood that men in the boiler-room saw water coming out of the bunkers and that the inside wall of the bunker was not at all ruptured. Is that your understanding of the facts?—A. My understanding is that water only came through the bunker doors.

6866. Q. And that the inner side of the bunker was absolutely untouched by the stem?—A. Yes.

6867. Q. How far in from the side of the ship is the inner partition of the bunker?—A. Fourteen feet.

6868. Q. We are absolutely safe, therefore, in assuming that the *Storstad* did not penetrate 18 feet; on the contrary, that she did not penetrate 14 feet?—A. I do not think so.

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By Lord Mersey:

6869. Q. Does that follow?—A. It all hangs on the assumption that the stem entered immediately under 328.

LORD MERSEY.—It does not seem to me to follow.

Mr. HAIGHT.—According to my understanding, my Lord, we have a bunker space at 328—

LORD MERSEY.—All that we know is this: that this number got somehow or other, nobody knows how, on to the deck of the *Storstad*. That is all we know; we assume that it is a plate off the cabin No. 328.

Mr. HAIGHT.—I understood that to be conceded at the time.

By Mr. Haight:

6870. Q. How far forward and how far aft of room 328 does your bunker space run?—A. The bunkers extend about 58 feet aft and about 120 feet forward.

6871. Q. Then if the inner side of the bunker which is 15 feet wide was never broken, the *Storstad's* stem could not have penetrated inboard.—A. The inner side of the bunker bulkhead is not 14 feet from the ship's side throughout the whole of that space.

6872. Q. Please tell me how far aft and how far forward of 328 the inner side of the bulkhead is 15 feet distant from the skin of the ship?—A. Aft of 328 it goes back—there is first of all 2 feet 3 with no bunker bulkhead at all, and then 16 feet where the bunker is 14 feet from the ship's side.

6873. Q. I was wrong in stating 15; it is 14?—A. Fourteen.

6874. Q. Captain Kendall has stated that in his opinion on the night of the collision—given his draught and all conditions as they were—his vessel could be stopped running full speed ahead in two lengths by putting his engines from full speed ahead to full speed astern. Could you as the designer of the boat, and with your technical knowledge of her engines, give us any opinion as to how fast in your judgment such a vessel can be brought to an absolute dead standstill from full speed ahead?—A. No stopping experiments were ever made with the *Empress of Ireland*; I cannot say in what distance she would stop.

LORD MERSEY.—Will you tell me what full speed ahead means? Does it mean that the engines are making as many revolutions a minute as they can?

Mr. HAIGHT.—Full speed ahead is exceedingly misleading, I admit. It means that the telegraph on the bridge and in the engine-room is standing at full speed ahead; an order to that effect has been given.

LORD MERSEY.—But it does not mean that the engines are working at as high a speed as it is possible?

Mr. HAIGHT.—It does not necessarily mean that at all, my Lord.

LORD MERSEY.—Because my recollection is that the evidence shows that these engines were never worked at that speed.

Mr. HAIGHT.—They had never got the throttle wide open so as to give the vessel full steam.

LORD MERSEY.—Therefore full speed ahead is a little misleading.

Mr. HAIGHT.—It is, sir.

By Mr. Haight:

6875. Q. Assuming, Mr. Hillhouse, that the *Empress of Ireland*, with her telegraph standing full speed ahead, is actually making revolutions enough to give her 15 knots through the water, could you give us any idea how far she would run if her engines

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were put full speed astern with the same number of revolutions that she had been making full speed ahead?—A. No, I cannot give any idea.

LORD MERSEY.—Is it a thing that is ever done immediately to reverse the engines?

Mr. HAIGHT.—I was going to ask that subsequently. I think my Lord, that in my experience it has never been done; Captain Kendall, I understand, has done it by experiment.

LORD MERSEY.—Yes, it seems to me an extraordinary thing, because I have always understood that to use your engines in that way was dangerous.

Mr. HAIGHT.—Every flying part is subjected to a torsion which not infrequently will break your shafting, blow out all your packing, and strain pretty much all your running parts. Of course, I do not mean to testify; I am merely—

LORD MERSEY.—Put it so that we can understand it. (To witness): If you are going to reverse your engines, do you go full speed ahead, or how do you do it, under ordinary circumstances?—A. You have to catch hold of the wheel in the engine room and rotate it several times; I am not an engineer, and I cannot tell exactly.

6876. Q. You do not suddenly put the engines full speed astern?—A. No, my Lord.

6877. Q. You do it by degrees; what are the degrees?—A. I am really not enough of an engineer to tell you, my Lord.

By Mr. Haight:

6878. Q. It is technically possible, is it not, Mr. Hillhouse, to throw your links absolutely over so that your engine is put from her forward movement to her backward movement by the single motion almost instantaneously?—A. I think not; I think these links have got to be put over by a small steam engine, which takes some time to put them over; but Mr. Sampson would tell you all about that better than I can.

6879. Q. You are unable, even with your knowledge of the power of the engines and the size and pitch of the propellers, to form any estimate as to how many lengths the *Empress* would run if she were going 15 knots through the water and her engines were instantly put full speed astern?—A. I cannot give you any idea.

6880. Q. Have you personally known of cases where in emergency the engines have been put full speed astern instantly to avoid collision or stranding?—A. No.

6881. Q. Were you familiar with the damage sustained by the *Lusitania* some time ago, a year or more ago?—A. No.

6882. Q. Did you never hear of it?—A. No.

6883. Q. Did you never hear that she had stripped her turbines when putting her engines suddenly full speed astern?—A. I heard about her stripping her turbines, but I did not hear any reason given for it or what the cause of the accident was.

6884. Q. You did know that the *Lusitania* was laid up for months for repairs?—A. Yes.

6885. Q. You never heard anything directly or indirectly as to how she happened to put her engines full speed astern?—A. I did not even know that the damage was caused by such a manœuvre; I knew only that her turbines had been stripped.

6886. Q. Will you please refer to your plan and tell me how many feet it is from the centre of the bridge to room 328, I mean along the side of the ship, fore and aft?—A. About 105 feet or thereabouts.

6887. Q. Will you measure it on your largest plan, if you can?—A. I am referring to two or three plans, sir.

6888. Q. My understanding is about 120 feet. (Witness refers to plan.)

By Lord Mersey:

6889. Q. This is another plan?—A. This is one of the plans which I propose to submit, my Lord, with 20 or 30 others. (To Mr. Haight): 130 feet.

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By Mr. Haight:

6890. Q. Captain Kendall has testified, Mr. Hillhouse, that in his judgment when the *Storstad* struck the side of the *Empress* she actually rebounded like a ball striking the water. Would you say from your knowledge of ship construction and of moving forces that such a rebound would be possible?—A. No, I do not think so.

6891. Q. In other words, the forward movement of the *Storstad* is absolutely taken up in the crushing in of her own bow and the crushing in of the side of the *Empress*?—A. Yes.

6892. Q. If the *Empress* is absolutely dead in the water, after the *Storstad* has exhausted her forward movement, the two vessels would lie still in the position?

LORD MERSEY.—Is that absolutely certain?

Mr. HAIGHT.—Assuming that the *Empress*—

LORD MERSEY.—Is there no resiliency, no possibility of a rebound, when these two boats come together?

By Mr. Haight:

6893. Q. As I understand it, with the empty spaces in the side of the *Empress*, you exhaust your forward movement by penetration, and as long as you have got any momentum at all, it tends to crowd you into the hull; when you have exhausted that the moving mass becomes inert. Am I correct, Mr. Hillhouse?—A. Yes, there might be some slight motion left, but theoretically I think you are right.

By Lord Mersey:

6894. Q. That is substantially correct?—A. Substantially correct, yes.

By Mr. Haight:

6895. Q. Assuming that to be the case, Mr. Hillhouse, the fact being admitted that after the *Storstad* entered the side of the *Empress* the *Storstad* was seen disappearing in the fog astern, or was apparently swung to starboard herself, to what do you attribute such movement of the two vessels?—A. Well, that might have been caused by the *Storstad* going astern with her rudder over; it might have been caused by a head motion on the *Empress*.

6896. Q. I will ask you to assume that when the *Storstad* struck the *Empress*, the instant that she struck the *Storstad's* engines were put ahead and that under those circumstances the vessels separated almost in a parallel position; could anything but the movement of the *Empress* explain such a position?—A. I think not, if the *Storstad's* engines were kept going ahead.

6897. Q. The same thing would be true if the *Storstad's* engines were stopped?—A. Yes.

6898. Q. Only one more point. Will you be good enough to describe a little more accurately than was done by a preceding witness, the telemotor system of steering.

LORD MERSEY.—Has this something to do with Galway's point?

Mr. HAIGHT.—He is going to approach that testimony, yes, my Lord, but more particularly the testimony of the engineer who had the sole charge of the steering apparatus for eight months prior to the accident.

The WITNESS.—The word 'telemotor', first of all, means a mover at a distance, the same as telegraph means writing at a distance and telephone sound at a distance. The instrument is a means of communicating the motion of the hand wheel upon the bridge to the steam steering engine at the after end of the ship; it replaces the ordinary system of shafts and bevel wheels, chains and wheels. The motion of the hand wheel works a plunger inside of a cylinder and forces a mixture of glycerine and water into one or other of two pipes, which pipes travel the whole length of the ship, and at the other end are connected to another cylinder. According as the pressure comes on one end or the other of that after cylinder, so the steam valve of the steering engine is

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moved one way or the other, and the steering engine moves to port or starboard. After it is moved a certain distance, it automatically cuts off its own steam, so that if the steersman puts the wheel over to a certain point and holds it there, the engine will follow and stop after having travelled a distance proportionate to the amount the wheel has been turned. When he releases the wheel, springs at the after end pushes back the telemotor cylinder, and rotates the hand wheel back to the original position. On the bridge and connected with these two pipes there is a small reservoir or tank, the only duty of which is to make up any leakage which may accidentally take place in the telemotor pipes, and on that tank is a little brass gauge, so that people on the bridge can at any time see whether the telemotor system is properly full of glycerine or not.

By Mr. Haight:

6899. Q. The system, as I understand, is practically a closed system, a closed circuit?—A. Yes.

6900. Q. There is no room for evaporation?—A. No.

6901. Q. The pipe is theoretically absolutely tight, and so are the valves?—A. Yes.

6902. Q. If, then, it is found by looking at the gauge that a considerable amount of the glycerine and water has disappeared from the system, that fact inevitably means a lack somewhere, does it not?—A. Yes.

6903. Q. What is the ordinary size of the pipe through which this glycerine runs?—A. Five-eighths of an inch in diameter.

6904. Q. It is copper, is it not?—A. Yes.

6905. Q. What is the thickness of the copper, do you know?—A. No.

6906. Q. If you found that periodically after some days in port any quantity of your glycerine had disappeared, it would be vital, would it not, to trace out your system and find where the leak was?—A. Yes, it would be.

6907. Q. What is the effect of any break in the fluid in your pipes upon the facility with which your wheel and your steering engine can be operated?—A. What do you mean by a break in the fluid?

6908. Q. Assuming that there has been a leak sufficient to leave an appreciable section of pipe empty, how will that affect your steering apparatus?

LORD MERSEY.—You are assuming something in that question which does not appear very clear to me. If there is a leak, does it leave what you call a space of the pipe quite empty?

MR. HAIGHT.—No, it would not necessarily leave a bubble, although I am inclined to think that it works somewhat that way, but it must leave some empty space in the system.

LORD MERSEY.—Of course it must, but what I thought you were assuming in your question was that a certain length of pipe would be empty; and I do not think that would be the effect.

MR. HAIGHT.—I am not sure; I rather think it would leave an air bubble. (To Witness): Mr. Hillhouse, when a leak does occur, and at a certain point in the pipe glycerine drops out, does it leave an air bubble such as you sometimes see in a thermometer, or does it simply make the whole system slack to that extent?—A. I do not absolutely know, but my impression is that if glycerine leaked out of such a pipe, it would leak out because there was pressure inside that would show that other glycerine was crowded towards the place, and the pipe would remain full and be supplied from the supply tank in the chart house.

6909. Q. But let us suppose that there is a sufficient leak actually to leave some space empty in the system; what I want to know primarily is: what effect does it have upon the efficiency of your steering system?—A. If there was a considerable leak and it left some part of the pipe empty, I do not think it would work at all.

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By Lord Mersey:

6910. Q. Would it leave part of the pipe empty or would it simply diminish the whole stream that runs through the pipe? I understood that this pipe is one continuous pipe?—A. Yes, my Lord.

6911. Q. Well, now, if it were a pipe of water—I do not know whether glycerine makes any difference—and there were a leak somewhere, that leak, according to my notion, would not cause a part of the pipe to be empty, but it would cause the whole stream from one end of the pipe to the other to be less in quantity?—A. No, my Lord. I do not think that would be the effect. You must remember that this pipe comes from the bridge and descends and goes along to the steering gear. My impression is that if any leak occurred, the pressure of glycerine would fill up the empty space.

6912. Q. This pipe is not a horizontal pipe all the way?—A. No.

6913. Q. It bends?—A. Yes, and it is very small in diameter also.

6914. Q. If any water would get out, it would cause an empty space at the top of the pipe?—A. At the top, yes.

By Mr. Haight:

6915. Q. If we assume, Mr. Hillhouse, that some has leaked out and has not been replaced, and you therefore have had your pipe to some slight extent empty, please tell me what effect that would have upon the efficiency of the system?—A. The steering gear would probably not work at all.

6916. Q. The efficiency of the system depends upon a continuous circuit of fluid?—A. Yes.

By Lord Mersey:

6917. Q. Then you mean to say that if there is a leak the telemotor ceases to act at once if the leak is not supplied by a fresh supply of glycerine?—A. Yes, my Lord.

By Chief Justice McLeod:

6918. Q. Does it cease to act altogether, or does it act, but not as well?—A. It would cease to act if there was any considerable empty space in the communicating pipe.

6919. Q. Supposing there was leakage of a small amount, not a very considerable amount?—A. I do not think one or two air bubbles in the pipe would throw it out of action.

6920. Q. What I want to get at is this: would it affect it so that it would not act as well, or would it cause it to cease to work altogether?—A. No, a small leak, I think, would allow it to work.

By Lord Mersey:

6921. Q. I do not think that is an answer to the question that is put to you. The question is this: Supposing there has been a leak and that leak has not been obviated by a fresh supply, will the telemotor still act, or will it stop altogether? If you do not know, say that you do not.—A. I do not know; it depends so much on the size of the leak and where it is.

6922. Q. May it have the effect not of throwing the apparatus out of work altogether, but of causing it to work in an unsatisfactory manner? If you cannot answer that, say so.—A. I cannot answer that, sir.

By Mr. Haight:

6923. Q. Suppose, Mr. Hillhouse, that it is found in actual work in the turning of the wheel by one of the quartermasters of the ship, as testified to by Mr. Murphy in this case, that when he receives the order to port and he puts his wheel over, she does not go, and in order to get her to go he puts his wheel back again to the centre and then puts her round the second time and she does go; suppose that to be the fact,

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what does that indicate to you as to whether the system is or is not full of fluid?—
A. I cannot answer that.

6924. Q. I understood Murphy the quartermaster to say that sometimes when you put your wheel over to starboard, she would not answer, and then all you have to do is put your wheel back to the centre and then put it over a second time and she will go. Can you tell me what that means?—A. No, I never saw a wheel act in that way and I do not know what it would mean.

6925. Q. It would mean something out of kilter, wouldn't it?—A. It would seem to me that in a case like that the gear wouldn't be working at all; it would be entirely out of order.

6926. Q. If, for instance, you turn your wheel to starboard you pump a certain amount of fluid up out of the top of your cylinder, and down towards the stern of the ship?—A. Yes.

6927. Q. Now, if that quantity so pumped out is not sufficient to start your steering engine, when you bring your wheel back to amidships and turn it over once more, you pump a further quantity out through the top, do you not?—A. No, because there is the same quantity of glycerine between the telemotor in one pipe and the aft telemotor.

6928. Q. There should be the same?—A. If you move this you only push it backwards or forwards; it is always the same quantity.

6929. Q. There should be the same, but suppose a leak has occurred in the pipe that leads down to port side, and there is therefore some empty space in that part, whereas the starboard pipe is absolutely full, would you not, under those circumstances, by turning your wheel back to the centre and making a second turn towards the starboard, supply a certain extra quantity of fluid which might take up the space that had been lost?—A. No, because in turning the wheel back you reverse and again turn the wheel forward.

6930. Q. But if you got air at the top of the pipe, when you turned the wheel back you might not draw the fluid, but might simply take up the dead air, might you not?—A. Do you mean to say you take dead air when you turn it one way and not pump in dead air when you turn it the other?

6931. Q. Having the fluid at the top, turning starboard would pump the fluid out. Now, if when it reaches the top of the pipe, which, according to my understanding, is right at the top of the cylinder, it runs down hill, you might turn the wheel back a second time and get a supply to force over, might you not?—A. I do not think so, Mr. Haight; I cannot follow that.

6932. Q. But in any event, if you put your wheel to starboard, and the vessel's head refuses to swing to starboard, you have got something radically wrong?—A. Yes.

6933. Q. Something that requires instant attention, if your vessel is going to be safe so far as her steering gear goes?—A. Yes.

6934. Q. The valves in the telemotor cylinders are packed with leather, are they not?—A. Yes.

6935. Q. Have you ever known cases where valves have not been opened and packing put in for a considerable time, the leather deteriorates and the valve at one telemotor or the other would cease working effectively, sometimes cease working entirely?—A. I have no experience of that, because we deal only with new ships.

LORD MERSEY.—That, Mr. Haight, is an entirely new point, isn't it?

Mr. HAIGHT.—I am acquiring information as I go along, my Lord.

LORD MERSEY.—But I want you to acquire information that is going to be of use to us. All these subjects are very interesting, no doubt, but are you going to suggest that the valves were packed with old packing that had withered?

Mr. HAIGHT.—The only information we have, my Lord, is that one man had exclusive charge of overhauling the telemotor system of the *Empress*, and we have not a syllable to suggest that he ever examined the pipes; on the contrary, we have had

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admission that he did not know where they were. We had not a syllable to suggest that the valves were ever taken out of the cylinders and examined. Now, two things will put the entire system out of effective operation; one is a lack of liquid and the second is the lack of a perfectly tight valve.

LORD MERSEY.—I can understand that, but what I am saying is that I never heard it suggested until this moment that there was a possibility of the packing of the valves having been defective.

Mr. HAIGHT.—This is the first expert, my Lord, who has been put on the stand to whom that question could have been addressed.

LORD MERSEY.—You might have asked somebody else about it.

Mr. HAIGHT.—The only other man who had anything to say on the subject was the engineer, who admitted that he had never examined anything, so he would not know.

LORD MERSEY.—Well, you should have put it to him; you had this point in your mind?

Mr. HAIGHT.—I am forced to confess that I have learned a good deal about the telemotor since he was on the stand. I did not myself have the slightest idea how many cylinders there were nor how they were packed; I have subsequently used some of my spare time along that line. However, I will withdraw the question if your Lordship wishes.

LORD MERSEY.—Oh, no, I did not mean that. I understand the question to be whether it is possible that the packing, if not regularly attended to, will become slack and ultimately useless?

Mr. HAIGHT.—It is to that effect.

The WITNESS.—I should think that is probable—possible.

By Mr. Haight:

6936. Q. From your knowledge of the system, Mr. Hillhouse, what derangement would allow the telemotor system to work so as to start your engine going, and start the rudder moving one way or the other, and then interfere with your stopping the turning of the rudder and bringing the position back to amidships?—A. I don't think I can tell you that, Mr. Haight.

6936½. Q. I have understood that at times, when the wheel is put over and the steering engine is started pulling, if you like, the helm towards the port, it has been found for one reason or another impossible to stop that engine, and that vessels have in times past taken sudden sheers, the *Lusitania*, for instance.

Mr. ASPINALL.—I do not think my friend should mention other occasions.

By Mr. Haight:

6937. Q. What derangement would prevent the steadying of the wheel so as to stop the rudder from continuing in its motion one way or the other after the engine had once been started running, do you know?—A. I do not know.

LORD MERSEY.—That is, at all events, an answer.

Mr. HAIGHT.—That is all, my Lord.

By Mr. Aspinall:

6938. Q. You have not told us what your qualifications are; are you a naval architect?—A. I am a naval architect.

LORD MERSEY.—I think the best qualifications that this gentleman has, so far as we are concerned, is the way in which he has given his evidence.

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By Mr. Aspinall:

6939. Q. With regard to this telemotor system, is it a well known system?—A. Very well known, and fitted in all first-class merchant vessels. It is acknowledged to be the best system of steering large passenger vessels and is adopted by all the best lines.

By Lord Mersey:

6940. Q. Is this system in common use on ocean-going steamers?—A. Yes, my Lord.

6941. Q. Is it, for instance, in use on the Cunard boats?—A. Yes.

6942. Q. Is it in use on the Allan line boats?—A. Yes.

6943. Q. Is it in use on the White Star boats?—A. Yes, I think so; I do not know for sure.

6944. Q. At all events, it is not a new fangled thing that you have in your boats?—A. By no means.

6945. Q. I am asked if it is on the *Essex*?—A. I understand that it is, my Lord.

By Mr. Aspinall:

6946. Q. With regard to this suggested leakage, assuming there is any leakage, is it taken up from the tank which supplies the material?—A. Yes, that is the object of the tank.

6947. Q. You have a tank, as I understand it, in the wheel house, haven't you?—A. Yes.

6948. Q. And that automatically feeds the machine?—A. Yes.

6949. Q. So that in the event of there being any leakage, if the tank does its work properly, the leakage is at once taken up and gone?—A. Yes.

6950. Q. Is that a simple mechanism?—A. Yes.

6951. Q. Which in your experience is effective?—A. Yes.

6952. Q. Now, with regard to the alteration in the area of the rudder. In what year was that done?—A. The ship was built in 1906, and I think it was about two years later.

6953. Q. That takes us to 1908?—A. Yes.

6954. Q. As you have said, it was done presumably because the owners wanted it?—A. Yes.

6955. Q. And you did it?—A. Yes.

6956. Q. Now, having done what they wanted you to do in 1908, have they asked you to do anything since?—A. No.

6956½. Q. Now, taking your evidence in the way in which Mr. Haight has dealt with it, as I understand you, you tell us this: that your view is that owing to this rapid inflow of water, there was a big initial list on the starboard side?—A. Yes.

6957. Q. Can you tell me, in view of what you assume to be the area of the wound in the side of the ship, in what space of time the whole boiler compartment which has now become one, would be filled?—A. It is very difficult indeed to estimate times, on account of the fact that the orifice is not a small one, and that the head of water is continually changing, but I should say that one and a half to two minutes should fill the whole space.

LORD MERSEY.—Put that question again.

MR. ASPINALL.—In view of what he conceives to be the extent of the wound in the side of the ship, in what time would the water coming in fill up the area of the two boiler rooms which are now converted into one, and the answer is in one to two minutes.

By Lord Mersey:

6958. Q. Now, I am asked to ask you this question: Can you give any estimate as to the area in square feet of the breach in the side below the load line?—A. I estimate that to be about 350 square feet, assuming that the area of the hole is exactly the same as the cross-section of the *Storstad's* bows.

6959. Q. That is the way you arrive at the area?—A. Yes, purely by measuring the *Storstad*.

6960. Q. Then, can you tell us what would be the initial inflow of water in tonnage per minute, assuming the inflow to be unobstructed?—A. I make it that the quantity coming in through such an area at the beginning would be 265 tons per second.

6961. Q. I do not see how this ship could remain afloat. Two hundred and sixty tons per second?—A. Two hundred and sixty-five.

By Mr. Aspinall:

6962. Q. Wouldn't that give the ship a very great initial list?—A. Yes, it would give her an initial list of some kind, depending upon how fast that water got across to the other side of the compartment.

6963. Q. If it remained at all heaped up on the starboard side, the list would be great, would it not?—A. Yes.

6964. Q. And would every second increase?—A. Not necessarily, because in every second more would be getting across to the other side.

6965. Q. Which would be greater, the incoming of the water or the facility with which it found its way over to the port side?

By Lord Mersey:

6966. Q. The water coming in through the aperture in the side of the ship is coming in without any obstruction of any kind, isn't that so?—A. Except perhaps the coal in the lower part.

6967. Q. When you talk about the area of the opening, I am assuming that you mean the area of the opening into the water?—A. Yes, I was asked for the area of the opening unobstructed, if there was no obstruction.

6968. Q. That is what I mean, the area is an unobstructed area in the skin of the ship?—A. Yes.

6969. Q. That is your assertion?—A. Yes.

6970. Q. Then when you get the water in the side of the ship and finding its way to the port side, is it unobstructed?—A. No.

6971. Q. It is obstructed by the boilers?—A. By coal and by the bunker bulkheads.

6972. Q. And therefore the tendency—I ask you—the tendency will always be rather to increase the list? I do not know; perhaps I am wrong.

By Mr. Aspinall:

6973. Q. Mr. Hillhouse, what you claim, and I daresay, rightly claim, is this: That assuming that the boiler room space which has been two spaces is now one, if you were to pour water in through a pipe say into the middle of that compartment and it readily found its way all over the floor of that compartment, that ship would remain a safe ship?—A. Yes.

6974. Q. That is what you had in your mind when you told us that this ship would safely float with two adjacent compartments flooded?—A. Yes.

LORD MERSEY.—I did not hear that.

MR. ASPINALL.—What he told me was this, that when he claims that this ship will float upon two adjacent compartments flooded, what he means is that he is assuming

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that the water, as I suggested to him, goes in through a pipe in the middle and readily finds it way over the floor.

LORD MERSEY.—He told us that long ago, Mr. Aspinall.

By Mr. Aspinall:

6975. Q. Well, the conditions in this case were different, were they not?—A. Yes.

6976. Q. As you have told us, you have this original inflow of water on the star-board side?—A. Yes.

6977. Q. And in addition you have this factor that the *Storstad* herself has run in, and to the extent which she has run in, is no longer a water-borne ship?—A. Yes.

6978. Q. And to the extent to which that is a factor, it is a factor increasing the list?—A. Yes, a certain part of the *Storstad* which was formerly supported by the water is now away from the water and rests upon something else, which is the *Empress*.

6979. Q. It had been water-borne before?—A. Yes.

6980. Q. Now, Mr. Haight has suggested that the entry of the *Storstad* disturbed the boilers and their cradles?—A. Yes, but I don't think there is any evidence to show that that actually did occur.

6981. Q. If in fact it did occur, if a boiler or its cradle were disturbed, that would probably throw the boiler to the starboard side, wouldn't it?—A. If the cradle were disturbed, yes, sir. As soon as the *Storstad* withdrew the boiler would go over to the starboard side.

6982. Q. Well, that might be a factor which we might have to consider?—A. Yes, it might be, but I think the evidence shows that the boilers were not actually disturbed.

6983. Q. If you got sufficient initial list, I suppose it might be that it will bring the side of the ship so much over that it might bring these upper port-holes below the water level?—A. Yes.

6984. Q. And if they are open that will admit water into other compartments than the damaged compartments?—A. Yes.

6985. Q. And then again that may be a factor in this case?—A. Yes.

By Lord Mersey:

6986. Q. I wonder if you can tell me what the area of an open port-hole is?—A. Yes, my Lord. The port-holes upon the main and lower decks are ten inches in diameter, that is an area of about eighty square inches.

6987. Q. And how many square inches are there in a square foot?—A. 144.

6988. Q. Very well, then, it is a little more than half a square foot?—A. Yes, my Lord, fifty-five per cent of a square foot.

6989. Q. And what volume of water would come through that in a second?—A. That depends on how far that is under the water surface.

6990. Q. How far the port is under?—A. Yes.

6991. Q. And you cannot tell me how much water will pass through that space in a second?—A. No, my Lord, not unless you can tell me how far you will assume the port to be under the surface of the water.

LORD MERSEY.—And I am sure I cannot tell you that.

By Mr. Aspinall:

6992. Q. Now, leaving that matter, and turning to another, you have told us that in view of what you conceive to have been the breach, that this flooded compartment would be filled in from one to two minutes?—A. Yes.

6993. Q. So that unless the water-tight doors which are in this compartment have been closed before the impact, those who have to operate them have to do their work in from one to two minutes?—A. Yes.

6994. Q. That is the time they would have?—A. Yes.

6995. Q. I dare say you heard some of the evidence that the water was within a very short space of time discovered upon the upper deck, didn't you?—A. Yes.

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6996. Q. That would point again to the fact that the inrush of water must have been extremely rapid?—A. Yes.

6997. Q. Well, now, I want you to tell me, with regard to the water-tight doors that are to be considered in connection with these compartments—you understand, of course, the boiler space is now to be considered as all one space?—A. Yes.

6998. Q. And I want you to tell me how many water-tight doors there are in the three bulkheads which had composed the boiler room spaces?—A. Yes.

6999. Q. First of all, how many are there? Are they twelve in number?—A. Yes, twelve in number.

LORD MERSEY.—I have not been quite following that, Mr. Aspinall.

Mr. ASPINALL.—My Lord, he has stated that in the space which is flooded there are 12 water-tight doors.

7000. Q. Are there two of them in the hold, both of them vertical?—A. Yes.

7001. Q. You know you have told me about this before, and I think I can sum it up pretty quickly. Was one of those in the bulkhead which was destroyed?—A. Yes.

7002. Q. So we can leave that out of the question?—A. Yes.

7003. Q. That is ineffective, that is gone for the purposes of the inquiry?—A. Yes.

7004. Q. Is the other vertical one in the lower hold in the middle of the bulkhead which is immediately forward of that?—A. It is in the middle of the bulkhead, immediately after that.

7005. Q. Aft?—A. Yes.

7006. Q. And that vertical door was the door which we were told was shut?—A. Yes.

7007. Q. Very well; that is two of the twelve?—A. Yes.

7008. Q. That is in the hold?—A. Yes.

7009. Q. Now what water-tight doors are there on the lower deck?—A. There is one at the fore end, forward of the boiler room on the lower deck.

7010. Q. Yes?—A. But in the bulkhead which was damaged and dead, in the bulkhead on the boiler room.

7011. Q. Well now, that is five we have disposed of?—A. Yes.

7012. Q. On that level?—A. Yes.

7013. Q. How many of those are on the port side?—A. Two.

7014. Q. How many on the starboard side?—A. Three.

7015. Q. No, surely not three on the starboard side?—A. Yes, the one at the fore end is two feet on the starboard side, almost in the centre.

7016. Q. And one of those three is in the damaged bulkhead?—A. Yes.

7017. Q. So we can leave that out of consideration?—A. Yes.

7018. Q. We need not trouble about the water-tight doors on the port side?—A. No.

7019. Q. So that leaves us two to consider on the starboard side?—A. Yes.

7020. Q. Now then, with regard to the main deck, how many water-tight doors are there?—A. Five doors.

7021. Q. How many of those doors are in the bulkhead which was destroyed?—A. Two.

7022. Q. And that leaves three?—A. Yes.

7023. Q. How many of the remaining three are on the port side?—A. One on the port side, and two to starboard.

7024. Q. So that, as a result of that, there are four doors that we have to consider, four only, and those on the starboard side?—A. Yes.

7025. Q. That is right?—A. Yes.

7026. Q. Now with regard to one that the man Hayes told us about, he went and tried to operate it, you remember his evidence?—A. No, I didn't hear his evidence.

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7027. Q. Well, he said he was stopped through water getting in there—that he couldn't get there on account of the water?—A. Yes.

7028. Q. That would be three that we have to consider?—A. Yes.

7029. Q. Did you hear the evidence of Harrison this morning?—A. Yes.

7030. Q. He told us he couldn't get to one?—A. Yes.

7031. Q. Well that leaves two that we have to consider?—A. Yes.

Chief Justice McLEOD.—These could not be closed, I understand, Mr. Aspinall. I mean the ones you have been speaking of?

Mr. ASPINALL.—No, my Lord, they could not be closed. What I am trying to get at is what we have to consider, and what is the evidence with regard to these four. Hayes tried to get to one, and Harrison tried to get to another, that would leave two that may or may not have been operated. That is correct, Mr. Hillhouse?—A. Yes.

7032. Q. I don't know whether you heard the evidence of Mr. Rankin?—A. Yes.

7033. Q. He was an engineer and he says he heard something in his vicinity being operated?—A. Yes.

7034. Q. Might that be one of these remaining two?—A. It is difficult to say; it may have been. I think the remaining two doors were in all probability closed, because they were one of them between the coal bunkers and the passenger space, and while the coal was being put in that must have been shut to keep the coal dust from passing through, and the other is between two bunkers, and in all probability was shut.

7035. Q. So the result of your evidence is this, that whilst it is material to consider these four watertight doors on the starboard side, you think it is highly probable that two were closed, and you have either heard the evidence or have heard me tell you that Hayes and Harrison said they tried to close the other two, but couldn't?—A. Yes.

7036. Q. And I gather from what you have told Mr. Newcombe that in view of the fact that this box, as I call it, failed to contain the water, that that may be the cause of the disaster?—A. It may be.

7037. Q. It may be the cause?—A. Yes, that the water flooded through the doors or side-lights, into more than two compartments.

7038. Q. And the only two watertight doors we can trace it to are those two which were said to be operated upon by Hayes and Harrison?—A. Yes, and in addition a certain quantity of water probably got through to the engine room before that door was shut.

7039. Q. Before the man succeeded in shutting it?—A. Yes.

7040. Q. Now that exhausts the water-tight doors which had anything to do with the effect of this accident?—A. Yes.

7041. Q. That is right?—A. Yes.

7042. Q. Well, now, with regard to these watertight doors in the stoke-hold in the bottom of the ship, is there any recommendation with regard to the necessity of their being closed, if there are less than five, excluding the tunnel?—A. No, the new convention for the safety of life at sea, speaking about watertight doors, states that unless there are more than five doors altogether, counting the two into the tunnels, then the doors need not be operated by power.

7043. Q. And in this case there were two tunnel doors?—A. Yes.

7044. Q. Excluding these, how many are left?—A. Three in place of five.

7045. Q. So that if that recommendation is to be given effect to, there would be no need for having these doors closed according to the recommendation of that body?—A. There would be no need for having them fitted with means of closing them from the bridge.

7046. Q. Oh, that is the recommendation, is it?—A. Yes.

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By Chief Justice McLeod:

7047. Q. There is now a means of closing such doors from the bridge, I understand?—A. Yes.

7048. Q. It is possible to have an arrangement by which they can all be closed at once?—A. Yes.

7049. Q. But according to the regulations you say that does not apply to vessels unless there are more than five doors?—A. No.

By Mr. Aspinall:

7050. Q. When you built this ship and handed her over in 1906 to the Canadian Pacific Railway Company, did you then think, of your best knowledge, that she was a good, efficient, and seaworthy vessel?—A. Yes, at the time she was built she was, if anything, of a higher requirement than the majority of ships. Very few ships at that time had been built in accordance with the recommendation of the 1891 Bulkhead Committee.

7051. Q. Has this present disaster somewhat puzzled you?—A. Yes, I was at first puzzled to account for the heeling of the ship.

7052. Q. The what?—A. The listing or heeling of the ship.

7053. Q. You have told us all you know about that?—A. Yes.

7054. Q. Now, with regard to another matter which Mr. Haight asked you about—he asked you if it would be easy for the *Storstad* to penetrate in a good distance into this boiler-room space—I want you to tell me in detail through what would the stem of the *Storstad* have to travel to get where it did get?—A. Well, it would have to travel through—

7055. Q. The coal?—A. Yes, the coal.

7056. Q. And next?—A. The bilge-keel.

7057. Q. The stringer, is that?—No, the bilge-keel is a projection on the outside of the ship. Then it would have to travel through the stringers in the hold space, through the lower deck, the main deck, the upper deck, and possibly the shelter deck.

7058. Q. It would have to go through all these obstructions before it was brought up?—A. Yes.

7059. Q. I think you saw the *Storstad*, did you not, Mr. Hillhouse?—A. Yes.

7060. Q. And I think you have told us that the model fairly represents the present damaged condition of her bow?—A. Yes, it does not pretend to be an accurate representation, with all the details shown, but roughly speaking it agrees with my memory.

7061. Q. Have you formed an opinion as to whether the present state of her bows was formed before she penetrated through the plating of the *Empress* or not?—A. My impression is, the deflection of the stem to port was caused by the first impact.

7062. Q. Before it penetrated the plating?—A. Yes, before penetration.

7063. Q. What would you think would determine the fact that it went to port?—A. The fact that the stern of the *Storstad* was somewhat nearer the *Empress's* bow than it was to the stern, or in other words that the angle of attack was of this kind: (Indicating.)

7064. Q. Leading aft?—A. Yes, and that the collision took place in that way, and drove the stem to the port side.

By Chief Justice McLeod:

7065. Q. And your idea is that that was caused by the impact?—A. Yes.

By Mr. Aspinall:

7066. Q. In other words, that before it got in damage had been done to the attachment of the bow, and that a little difference in the angle would determine which way the bow would go?—A. Yes, at the moment of impact something had to crush, and it

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was the slight angle which determined whether the bow should turn to port or to starboard.

7067. Q. Now, I want to ask you about the angle between the two ships. Captain Kendall gives it as his opinion that it was a seven-point blow. You have had the advantage of seeing the damaged ship since—on which side does the damage extend farther aft?—A. It extends farther aft on the starboard side.

7068. Q. How much farther aft to the best of your judgment?—A. About eight feet.

7069. Q. You say the damage on the *Storstad's* bow extends farther aft on the starboard side by about eight feet than it does on the port side?—A. Yes.

7070. Q. In view of that, at what angle do you think the two ships came together?—A. At an angle of about eighty degrees, that is not quite a right angle, but a little less. About ten degrees less than a right angle.

By Chief Justice McLeod:

7071. Q. That is an angle of about eighty degrees towards the bow of the *Empress*?—A. Yes.

Mr. ASPINALL.—That is all.

Mr. HAIGHT.—One question, my Lord.

7072. Q. Is it not true, Mr. Hillhouse, that after the water entered through the wound in the side of the *Empress* it got into the bunker space, and would be contained there, and that the bunker doors would really be the only entrance for the water into the ship?—A. Yes, the access of the water from the starboard bunkers would be through those doors to the stokehold, and then in addition it could travel freely across the lower deck, and from the lower deck could fall down to the stokeholds, and the opposite bunkers through a number of coal hatches.

7073. Q. Now you have said that you estimate the area of the hole in the side of the ship at about 350 square feet?—A. Yes.

7074. Q. Is it not true that the area through which the water really entered into the body of the ship would be the area of the doors leading from the bunker space?—A. Those in addition to the hatches on the lower deck. You understand the lower deck is open from side to side; there is no obstruction there except what coal was lying in the upper bunker.

7075. Q. You mean there are hatches from the upper bunker to the lower one?—A. Yes.

7076. Q. Is the upper bunker below the water line?—A. Yes, the floor is.

7077. Q. Then if you had a hole in the side of the ship which let in the volume of water, whatever volume you like, into the bunker, the actual area through which the water would go into the body of the ship, would be the area of the bunker doors opening, and the bunker hatches going down through the floor of the upper bunker?—A. Yes.

7078. Q. Now what would be the area of those doors?—A. Seven doors, each 12 square feet, that makes 84 square feet, and the total area of the hatches is 120 square feet, making a total of 204 square feet.

Mr. HAIGHT.—Now, my Lord, by the aid of my own expert, I have reached quite a different conclusion as to the angle of contact. Does your Lordship desire that I should cross-examine this witness at length on his result?

LORD MERSEY.—Certainly I do not desire that; but I do desire that you should put that to him. Put your points to him, because if you are going to set up some new theory when your experts go in the witness box, you ought to give this gentleman an opportunity of understanding them and answering them; but you need not do it at length.

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Mr. HAIGHT.—Well, my Lord, it is a rather complicated computation to figure out the angle, but I will do my best to make it as clear and as short as possible.

7079. Q. Mr. Hillhouse, Mr. Reid, who has been advising me on the question of the physical condition shown on the *Storstad*, by taking the traces of your decks as they are shown on our starboard side, first crushing in the upper deck, where she took the bilges out, subsequently crushing such and such a deck, until we get down towards the water line—one mark from one of your decks runs lengthwise from the line of the side of the ship?—A. Yes.

7080. Q. From that, assuming the draught of the two vessels as now known, Mr. Reid has figured that the angle is in the neighbourhood of forty degrees. Now do you feel that your study of the *Storstad* has been sufficiently accurate to justify you in differing so radically with him, or is your estimate largely approximate?—A. My estimate was largely taken—partly approximated by looking at the *Storstad*, and partly from this model. I measured the point on each side to which the damage extended, and joining these up, I got an angle of approximately eighty degrees.

7081. Q. Do you then agree, with reference to the angle of the damage upon the bow of the *Storstad*, that it is by taking this and nothing else that you have reached your conclusion as to the angle of contact?—A. Yes.

7082. Q. And if, as a matter of fact, the damage on the upper deck, which I understand is where you measured the amount of damage done—is that right?—A. Yes.

7083. Q. Well if, as a matter of fact, the damage on the upper deck was due first to penetration, and subsequently to leverage and a swinging motion, that would not be a very accurate factor to work from, would it?—A. No, it is only accurate if that damage indicates the extent on the two sides to which penetration has taken place.

7084. Q. Well, do you mean at first or at some other time?—A. No, it must be at first.

7085. Q. If the vessel comes in on an angle of forty degrees, and then is swung by virtue of a forward movement of the *Empress*, after the upper deck of the *Storstad* is under one of your decks, she is wiped right off—everything on the upper deck is wiped off as the vessels swing?—A. Probably.

7086. Q. Now did you note in your examination of the port bow of the *Storstad* distinct imprints from parts of your vessel?—A. As far as I remember there were cuts and scratches as if the decks had made marks.

7087. Q. Did you note any definite imprints which indicated precisely what it was on your vessel that had hit the port side of the *Storstad*?—A. No, the only thing I noticed was the deck levels.

Mr. HAIGHT.—Mr. Reid, my Lord, will point out to the court to-morrow, not only the traces of the various deck levels, but various other data, which show from a careful study of these diagrams just what it was that touched us. For instance, there is a round print to-day in our plating of a bull's-eye, a port hole. There is below it, and a little aft, a straight punch, a straight indentation which is unquestionably traceable to a valve, which is shown on the diagram; and from data of that character, which I shall not undertake to give at the moment, Mr. Reid reaches quite a different conclusion. But if your Lordship feels that I need not go farther at the moment, I would rather call Mr. Reid than re-examine Mr. Hillhouse farther on the subject.

LORD MERSEY.—All I want to say is this, that if you are going to ask Mr. Reid any questions which it would be fair and right to put to this gentleman before he leaves the box, you ought to put them now.

Mr. HAIGHT.—Well, my Lord, personally I certainly do not wish to show any unfairness to Mr. Hillhouse, but I can hardly see that there is any particular object in asking him about data which have not come under his observation.

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LORD MERSEY.—In any event we shall have Mr. Hillhouse here, and if Mr. Reid gives us any evidence which seems to us to call for an explanation from Mr. Hillhouse, and if he wishes to give that explanation, he will be available to put into the box again. Now, have you finished with Mr. Hillhouse?

Mr. HAIGHT.—Quite finished, my Lord.

By Lord Mersey:

7088. Q. Have you given the metacentric height before the damage?—A. Yes.

7089. Q. Have you calculated it after the damage?—A. Yes, my Lord, I have.

7090. Q. Well I am not sure, but I thought you had in your hand a plan intended to indicate it?—A. No, my Lord, not a plan to indicate the metacentric height after the damage.

7091. Q. Now can you tell us what that metacentric height after the damage would be?—A. When the water has reached a height of half way between the main and the upper decks, and has filled the compartments the metacentric height I estimate to be 26 inches.

7092. Q. Well, assuming the metacentric height to be 26 inches, would you expect the list to be as great as we were told it was?—A. Because the inrush of water was so great on that side, and the *Storstad* herself pressed the ship down, and some of the water got over to the starboard side.

7093. Q. Got to the starboard side?—A. Yes, to the starboard side of the ship through the doors of the engine-room, and also possibly passed quickly along through the main deck here.

7094. Q. Now, I am asked to ask you whether you think you can trace the course that the water could follow?—A. Yes, my Lord, I think I can.

7095. Q. Well, then do it?—A. First in order, the water would reach all the bunkers upon the starboard side of the ship, both below and above the upper deck; from these bunkers the water would pass through the coal bunker door into the stokeholds; from the stokeholds it would pass to the bunkers upon the port side of the ship, and at the same time the water would be passing from the lower deck bunkers through the coal hatches to the coal bunkers upon the port side of the ship.

By Chief Justice McLeod:

7096. Q. That would not increase the list?—A. No, the passing of the water across the ship would tend to diminish the list.

By Lord Mersey:

7097. Q. Are you able to give us any estimate of what the list would be, having regard to the fact that the water is entering on the starboard side?—A. I could estimate the list on various assumptions as to the difference in quantities of water on one side or the other, but I am unable to estimate what these differences of water would be, because it is so difficult to estimate the speed at which the water would cross to the other side of the ship.

7098. Q. It has been suggested to me that with a metacentric height of 26 inches there should have been no list, or very little list?—A. Even with a metacentric height of 26 inches, if there was a considerable excess of water on one side of the ship, a large list might be reached.

Chief Justice McLEOD.—There certainly was a list, there is no doubt about that?—A. Even with a metacentric height of 26 inches, a considerable angle of the hull may be caused by a want of balance in the weight. If there is more weight on one side than on the other.

By Judge Routhier:

7099. Q. If the water went to the port side it should diminish the list?—A. Yes, my Lord.

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LORD MERSEY.—Mr. Aspinall, I am going to do something which is rather unusual, but I think it will be the best way of dealing with certain of these technical questions which puzzle me, and I am going to ask the assessors to put some of the questions direct to the witness instead of merely suggesting them to me.

By Mr. Welch:

7100. Q. The arrangement of the bulkheads in this vessel are somewhat unsymmetrical with regard to the middle line, are they not?—A. No, sir, very little.

7101. Q. Well, take the boiler room for example?—A. Well, in the case of the single-ended boiler, there is a slight difference.

7102. Q. So that, if water came in in the neighbourhood of one boiler room, the initial effect would be an accumulation of water on one side of the ship—it would naturally go to the port side as well as the starboard side, but the starboard side, the volume of the bunker on the starboard side being greater than that on the port side, the first effect would be to list the ship to starboard, would it not?—A. Are you assuming that the water is in the bunkers only and not in the stokehold?

7103. Q. I am assuming that the initial effect would be there, before it got into the stokehold—of course it would get into the stokehold afterwards?—A. The initial effect certainly is to heel her to the starboard side if the water is only in the starboard bunker, but not due to any want of symmetry in the bunkers.

7104. Q. Would you refer to the plan and just be sure of that?—A. The only want of symmetry is in the way of the single-ended boilers, where there is a passage around the boiler and at the back of it.

7105. Q. Take the blue print if you will, I can't see that plan?—A. Yes, here is the blue print. This is the want of symmetry to which you refer?

7106. Q. Yes?

LORD MERSEY.—I hear another gentleman behind me here saying: no, it is not.

The WITNESS.—Oh, perhaps it is this recess here.

Mr. WELCH.—Yes, that is a little out of line? Is it not?

7107. Q. What I wanted to know was whether the effect of a blow in this vicinity would be such as to let more water on the starboard side, initially than the other?—A. Yes, certainly.

7108. Q. Because you have that there on the other side (indicating)?—A. No, not on account of that, Mr. Welch, simply because the water comes on this side, and afterwards I suppose it would finally fill.

7109. Q. But I am asking for the initial effect—finally I know it makes no difference, but the first effect, wouldn't it be to fill up that bunker, and then of course you have coal in this portion here, which is not quite the same there. I mean you have a bigger space for coal on one side than on the other?—A. Yes.

7110. Q. So that to that extent the water would get around quickly?—A. Through the coal.

7111. Q. And fill it in here in both boiler rooms?—A. Well assuming that at the beginning the water would be right around here, then in that case it would get partly in the coal and there would be a little more water on this side and there might be a little effect.

By Commander Howe:

7112. Q. Do you think the damaged bulkhead between the boiler rooms, being stepped, had any effect?—A. No, the step in that case had no effect, because the bulkhead was destroyed.

7113. Q. You don't think it could have the effect of holding the water on top of the deck?—A. No, because the water was coming from below as well as from above.

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LORD MERSEY.—Well, that will do. Now, do you want to ask this gentleman anything further, Mr. Newcombe?

Mr. NEWCOMBE.—No, my Lord.

LORD MERSEY.—Then, if no one has any questions to ask Mr. Hillhouse, we want Captain Kendall back in the box.

Captain KENDALL (recalled).

By Chief Justice McLeod:

7114. Q. I only want to ask one or two questions—referring to Father Point, I want to know what was the exact position from which you shaped your course after you dropped your pilot?—A. About a mile off the Father Point gas buoy.

7115. Q. Well, can't you give me the exact figures?—A. About a mile north-westerly.

7116. Q. About a mile northwesterly?—A. Yes, Cock Point buoy was abeam, but giving the exact thing it would be north 40 west.

7117. Q. That is the course you took?—A. No, my Lord, it is not the course I took. The bearing would be about south. I was north 40 west from the Father Point gas buoy, distant one mile.

7118. Q. And what distance did you run on that course?—A. About four and a half miles from there.

7119. Q. Is that as exact as you can give, the course you went?—A. That was not the course, sir, that was the bearing of the ship from Father Point.

7120. Q. Well, what was the course you took from there?—A. North fifty east.

7121. Q. And then what distance did you run on that course?—A. About four and a half miles.

By Lord Mersey:

7122. Q. Magnetic?—A. No, my Lord, compass.

By Chief Justice McLeod:

7123. Q. Is there any way of getting that more exactly—your log was lost?—A. Everything was lost. I can only give the distance the ship would run in that time.

7124. Q. And that would be about four and a half miles?—A. Yes.

7125. Q. And then you changed your course?—A. Yes.

7126. Q. To what course did you change?—A. To north 76 east by compass, north 73 magnetic.

7127. Q. And how long did you run on that course?—A. 12 minutes, from 1.25 to 1.47.

7128. Q. And then what course did you take?—A. I stopped then.

7129. Q. On your last course how many miles did you run?—A. About two and a quarter miles, or about three miles—I am just judging the distance she would go in that time, because I have no other records to give.

By Lord Mersey:

7130. Q. Are these courses the courses that are usually laid by steamers about to cross the Atlantic from Father Point?—A. Yes, my Lord, if anything, they are much more safer courses than the usual courses which are taken from Father Point.

7131. Q. Then you see you are contradicting yourself. I asked you whether these were the usual courses and your answer to that is yes, and then you say they are safer than the usual courses?—A. If I might explain to your Lordship, perhaps you will understand. Some men pass a mile off Cock Point for safety, some to be safer pass

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two miles off, and I was passing three miles off before I shaped my course down the St. Lawrence.

By Chief Justice McLeod:

7132. Q. You say you were passing about three miles from Cock Point buoy?—A. About two and a half to three miles.

7133. Q. And when did you shape your course down the St. Lawrence?—A. At 1.35.

7134. Q. That is after you left Father Point?—A. Yes, after Cock Point buoy was on the beam.

7135. Q. Well, do I understand you to say that you took the first course from Cock Point buoy?—A. From Father Point was the first course, until Cock Point buoy was on the beam. Then I shaped my course down the St. Lawrence.

7136. Q. And on that course you say you ran about 12 minutes?—A. Yes, it was 1.47 when I stopped my ship.

Mr. HAUGHT.—May I ask a question, my Lord?

LORD MERSEY.—Just a moment, I have one more question to ask.

7137. Q. Are there any instructions from your company for passing Cock Point buoy?—A. No instructions, my Lord.

By Mr. Haight:

7138. Q. According to my recollection, Captain Kendall, your first course as you testified to-day and laid it down on your chart, is north 47 degrees magnetic?—A. Yes, I gave the compass to his Lordship.

7139. Q. Is north 58 east equivalent to north 49 magnetic?—A. No, I said north 50.

7140. Q. Now, can you give us the precise time at which by your clock you left Father Point?—A. At 1.20.

7141. Q. You have heard the testimony given by the witnesses from the *Eureka*?—A. Yes.

7142. Q. And according to their clock, which was set accurately each day, the pilot came over the side from your ship at 1.30?—A. By their time.

7143. Q. Yes, by their time.—A. Yes.

7144. Q. Now, I want to know where you get your time from and what you know about its accuracy?—A. We correct our times by three chronometers we have on board our ship, which are always at Greenwich mean time.

7145. Q. Well do you think that your time is any more accurate than that which they have at the wireless station?—A. Absolutely more accurate.

7146. Q. They get absolutely astronomical time or standard time over the wire?—A. Yes.

7147. Q. Regularly?—A. Yes.

7148. Q. And the man on the *Eureka* says that every day he gets the exact time, and that it is the matter of a few seconds to correct?—A. Yes.

7149. Q. Now, the discrepancies in time are these, Captain Kendall, you say you left your pilot and started full speed ahead at 1.20?—A. Yes.

7150. Q. And the man on the *Eureka* says he observed the time exactly when the pilot came over and that it was 1.30?—A. That is his time.

7151. Q. You say you looked at the clock as I understand it about two minutes before the actual collision, and by the chart-room clock it was 1.53?—A. Yes.

7152. Q. You estimate 1.55 as the moment of contact?—A. Yes.

7153. Q. Whereas the wireless station, where their time is assumed to be absolutely accurate, say they got your call for help at 1.45?—A. Yes. The difference between the time given by the *Eureka* as 1.30, and the wireless station when they say they got

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our call for help at 1.45—that is to say according to their story we dropped the pilot at 1.30, and according to the wireless station there was a call from the *Empress of Ireland* for help at 1.45—is that right?

MR. HAIGHT.—Yes.—A. That is 15 minutes. Is it possible for a ship doing 17 knots, to steam seven miles in 15 minutes?

MR. HAIGHT.—I am sure I don't know.—A. Well, I am taking their times.

LORD MERSEY.—I don't know where I am getting to, but are you going to cross-examine Mr. Haight?—A. The times were put to me, my Lord, which has absolutely left me in a cloud.

Chief Justice McLEOD.—Well, this gentleman has his own time on board the steamer, and I understand the wireless operator speaks according to that time.

By Mr. Haight:

7154. Q. You have no explanation to make as to these differences?—A. Not to their differences. Our time is from three chronometers on board the ship, which differ one-fifth of a second per day. They are taken on shore every time we are in Liverpool and handed to an optician, and are brought on board again twelve hours before the ship sails, and the time is absolutely accurate.

7155. Q. They are never put forward or back?—A. They are never touched. We couldn't touch them if we wanted to.

7156. Q. And the variations you take are the result of computations you make?—A. Yes, from our own chronometers.

7157. Q. But when you went into the chart-house you didn't stop to make long computations from the chronometers?—A. No, but our clock is corrected by the chronometers—controlled by the chronometers—

7158. Q. How did you happen to go into the chart-house while the fog was on?—A. I didn't have to go into the chart-house it was a matter of putting my head in at the door.

7159. Q. Yes, but why did you do it?—A. Because I very often do it—it is my duty as captain of the ship.

7160. Q. Do you remember what particular duty you intended to perform when you went into the chart-room on this occasion?—A. No, but when I make any entry, or do anything with my engines, or stop my ship, I naturally look at the clock.

7161. Q. Do you remember what you did when you went into the chart-room and saw the clock standing at 1.53?—A. I didn't go in, I simply stuck my head in.

7162. Q. Well for what purpose?—A. To look at the clock.

7163. Q. But why did you happen to want to know the precise time at this particular moment?—A. Because it is my duty to take the times when I stop my ship, or make any movement of the engines.

7164. Q. Had you just given some order to the engines at that time?—A. My ship had been stopped previously to this.

7165. Q. I understand it is your duty to take note of the time when you give an order to the engines—had you given an order to the engines at the very moment you looked in at the clock?—A. No, not at that particular moment.

7166. Q. Then that was not your reason for looking at the clock at that moment?—A. No.

7167. Q. Well, try to tell me what your reason was?—A. I can't give any particular reason, except I told you I went in the chart-room to see what time it was. I had heard the whistles and I stuck my head in to look at the clock, just as I would look at that clock over there.

LORD MERSEY.—If I looked at the clock, it would be to see what time it was?—A. Exactly, my Lord.

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Mr. HAIGHT.—I don't remember, Captain Kendall, your having stated before that it was 1.35 when you changed your course to north 73° magnetic?—A. That was my time.

7168. Q. Did you look at the clock at that time?—A. The officer gave me that time, the officer who was drowned, Mr. Moore.

7169. Q. There are no entries in the log that was saved of any of those times or distances?—A. None whatever.

7170. Q. How did you get the 1.47?—A. That was reported to me by the officer also.

7171. Q. Which officer?—A. Mr. Moore, who was lost. He stands in the door and gives me the times.

7172. Q. Why didn't he give you the 1.53 instead of you going in to look at the clock?—A. There was no need to do it. It was my own observation.

7173. Q. That is, he gave you the 1.35 and the 1.47?—A. Yes.

7174. Q. And for some reason you didn't want him to give you the 1.53?—A. There was no reason. I simply went in and looked at the clock.

7175. Q. You simply looked at the clock?—A. Yes.

Mr. HAIGHT.—That is all.

LORD MERSEY.—Do you desire to ask this witness anything, Mr. Aspinall?

Mr. ASPINALL.—No, my Lord.

LORD MERSEY.—And Mr. Gibsone?

Mr. GIBSON.—No, my Lord.

LORD MERSEY.—Then we will now rise.

Mr. HAIGHT.—May I first ask, my Lord, if my witnesses from the *Storstad* and the interpreter may be excused from further attendance?

LORD MERSEY.—I should think so. Do you want them again, do you think, Mr. Newcombe?

Mr. NEWCOMBE.—No, my Lord, I don't think so.

Mr. HAIGHT.—The reason I ask is this, my Lord, that a number of these men have served out their time and are held under subpoenas issued by the government, and they are practically prisoners at the present time.

LORD MERSEY.—Well before discharging them, do you need them any more, Mr. Aspinall?

Mr. ASPINALL.—No, my Lord.

LORD MERSEY.—And Mr. Newcombe?

Mr. ASPINALL.—No, my Lord.

LORD MERSEY.—Well, I am not quite sure, but I think we may conclude that none of us want them.

Mr. HAIGHT.—Then I understand they are discharged, my Lord.

LORD MERSEY.—Yes.

Mr. HAIGHT.—And the interpreter may also go?

LORD MERSEY.—Yes.

The Commission thereupon adjourned until 10 a.m., Thursday, June 25th.

KENDALL.

NINTH DAY.

QUEBEC, THURSDAY, June 25, 1914.

The Commissioners appointed by the Honourable John Douglas Hazen, the Minister of Marine and Fisheries of Canada, under Part X of the Canada Shipping Act as amended, to enquire into a casualty to the British Steamship *Empress of Ireland*, in which the said steamship belonging to the Canadian Pacific Railway Company was sunk in collision with the Norwegian Steamship *Storstad*, in the River St. Lawrence on the morning of Friday the 29th day of May, 1914, met at Quebec this morning, the twenty-fifth day of June, 1914.

LORD MERSEY.—Mr. Aspinall, have you any additional expert evidence to submit?

MR. ASPINALL.—There are two or three gentlemen to whom we have been talking, but they add nothing to the evidence given by Mr. Hillhouse.

LORD MERSEY.—Then, so far as you are concerned, we have heard all the expert evidence?

MR. ASPINALL.—Yes, it would be only quantity; I do not think they would add anything to what has been given.

LORD MERSEY.—Then under those circumstances, Mr. Haight, will you call Mr. Reid?

MR. HAIGHT.—We have, my Lord, three witnesses from the *Empress* as the result of a little further discussion we had with Mr. Holden yesterday, and if the Court will allow me I will address four or five questions to each of them. We went over with somewhat more care after the discussion in the morning some of the statements that had been given.

CHARLES BURNS, assistant storekeeper, *Empress of Ireland*, sworn.

Examined by Mr. Haight:

7176. Q. You were one of the assistant storekeepers on the *Empress*?—A. Yes, sir.

7177. Q. You were in bed at the time of the collision?—A. Yes, sir.

7178. Q. Did you go on deck immediately after you felt the jar?—A. Yes, sir.

7179. Q. When you came on deck did you see the *Storstad*?—A. Yes, sir.

7180. Q. Will you please state just what her position was when you first saw her?—A. She was coming away astern of us, sir.

7181. Q. When you first saw the *Storstad*, did she appear to you still to be into your side?—A. No, sir.

7182. Q. Mr. Holden has been good enough to furnish me a copy of the statement which you made originally, Mr. Burns, which reads as follows:

‘I rushed out on the deck, and saw the bow of the *Storstad*. I saw the other ship, which appeared to me to be right into us. Then I could see the *Storstad* ‘moving around broadside with us.’

A. Yes sir.

7183. Q. Is that statement correct?—A. Yes, sir.

7184. Q. Then you did see the *Storstad* when she was still apparently sticking into the wound?—A. She was just moving away from the wound, then sir; appeared to be moving away from the wound.

7185. Q. As the statement reads,—it is a little important and I want to be accurate—it says: ‘I saw the other ship, which appeared to me to be right into us.’ Does

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that mean still in the wound?—A. No, right up against the side of the ship, coming away, sir. I couldn't tell whether she was in the ship or not from the distance I was away.

7186. Q. But she was quite close?—A. She was quite close to the ship, yes sir.

7187. Q. Whereabouts where you standing when you saw her?—A. Right on the after deck, sir.

7188. Q. And she was forward of you at that time?—A. Yes, sir.

7189. Q. Now, as the vessels separated, which way did the stern of the *Storstad* appear to swing?—A. She came right round towards our stern.

By Lord Mersey:

7190. Q. Towards your stern?—A. Yes.

By Mr. Haight:

7191. Q. That is, the *Storstad's* stern was swinging towards your stern so as to bring the vessels more or less in a parallel position?—A. Yes, sir.

7192. Q. Did you see the *Storstad* disappear astern?—A. No, I rushed back to the room then, sir.

7193. Q. Had she got aft of where you stood before you left?—A. The whole ship hadn't, sir.

7194. Q. But her stern had?—A. Her stern had, yes.

Cross-examined by Mr. Aspinall:

7195. Q. Before the crash came, were you awake?—A. Yes, sir.

7196. Q. When you woke, how long do you think it was before the crash came?—A. About three minutes I should think, sir.

7197. Q. Could you tell whether your propellers were moving then, or were they stopped?—A. Our propellers were stopped, sir.

By Lord Mersey:

7198. Q. Let it be quite clear. Do you mean that your propellers had stopped before you woke up?—A. Just before I woke up, sir.

7199. Q. You could scarcely tell that; you were asleep?—A. They were stopped when I woke.

7200. Q. When you awoke, was the *Empress* moving?—A. No, sir.

By Chief Justice McLeod:

7201. Q. Could you tell that from your bunk?—A. I couldn't tell; I could tell the propellers were stopped.

7202. Q. Whether she was moving through the water or not you could not tell?—A. No, I couldn't tell that.

Witness discharged.

Miss TOWNSHEND, passenger, *Empress of Ireland*, sworn.

Examined by Mr. Haight:

7203. Q. You were one of the passengers on the *Empress* at the time of the collision?—A. Yes.

7204. Q. Were you awakened before the collision actually occurred?—A. I was awake before the collision some time; I could not tell you exactly how long. I was awakened by some whistles; what whistles they were I do not know.

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7205. Q. According to your best recollection, what was the first whistle that you heard from the *Empress*?—A. The first whistles I heard from the *Empress* were three short twice and then two long.

7206. Q. Mr. Holden has been good enough to hand me a copy of the statement which I understand was taken by him and reported by a stenographer; may I just read to you from that? You were asked what woke you up, and the answer reads: "The fog horn." According to the record at page 94 you are reported to have stated this: "I could understand the signals very clearly. We were whistling, going full speed ahead; then the other boat whistled."—A. There was some boat, but I did not know what it was; it seemed to be going ahead of us all the time, and then the whistles vanished absolutely. I could hear nothing more until the whistles came of the *Empress* just before the collision.

7207. Q. Later in your statement you say:

I know the signals.

Q. He (Captain Kendall) tells me there were no fog signals before going astern?—A. They must have been fog signals. There were whistles. That is what awakened me. The whistles going, anyway. That is what woke me up.

A. That is quite true.

7208. Q. Just a moment please. Later, according to the statement:

Q. Captain Kendall tells me there was really no whistle signals at all after leaving Father Point, before the first three short blasts?—A. Well, what woke me up?

A. It is quite true some whistles woke me; as I say, it was some length of time before the collision and it may have been the whistles when we were leaving Father Point; I do not know.

7209. Q. But when you made your statement to Mr. Holden, your best recollection then was that you had been awake some moments before the collision, 10 or 12 or perhaps more, and that you had been awakened by the regular running whistle of the *Empress* blowing one blast; that is correct, is it not?—A. I could not say what blast was blowing, but I was awakened at the end of a whistle; I couldn't say what it was; it was some time.

7210. Q. But when you spoke to Mr. Holden first, your opinion then was that you had heard the *Empress* blow two or three regular whistle blasts, indicating that she was going ahead through the fog?—A. We were going through the fog, I know that, because I got down and looked and there was a very heavy fog hanging around. What the whistles were I could not tell you; they may have been we are going through the fog, but I understand the other whistles—these I only heard the end of.

7211. Q. How long was it after you were awakened by some whistles that you heard the three short blasts blown by the *Empress*?—A. That I could not tell you; I could not tell you any times whatever. I know it was some time.

7212. Q. The whistles which woke you were not the signals of three blasts?—A. Oh no, certainly not.

7213. Q. And the whistles which woke you were blown by the *Empress*?—A. Yes, certainly.

7214. Q. As I understand your statement, you got up and looked out of the port-hole and saw that there was fog?—A. I got up and looked out and I could only just discern the edge of the deck. Our cabin was on the second promenade deck and I could only just see the edge of the deck; the fog was very dense.

7215. Q. Then you went back to your berth for a few moments before the jar came?—A. I was back in my berth some time before the jar came.

7216. Q. Did you, after you had got up and looked out, hear the signals of three short blasts blown twice?—A. Blown twice.

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7217. Q. That was after you had got out of your berth?—A. It was after I had been back in my berth again some time.

Cross-examined by Mr. Aspinall:

7218. Q. What you are certain of, if I understand your evidence aright, is this: You twice heard three short blasts?—A. I am quite certain.

7219. Q. And these blasts were from the *Empress*?—A. From the *Empress*.

7220. Q. And in between these two short blasts you heard two long blasts?—A. No, after that.

7221. Q. After that, rather; I beg your pardon. Now, how did you manage to save yourself?—A. By the time I got out of the cabin she was listing most frightfully. I got up on to the promenade deck and when I got there there was regular confusion. The third class passengers were making for the boat deck, and if you didn't want to be crushed considerably you had to go up on the boat deck, so I went up on the boat deck, with my aunt, Mrs. Price. I stepped out on the port side right up holding on to the rail. When she had listed so much it was impossible to stand, I walked with my aunt down the port side right over the port holes down on to the steel side of her, and I was standing on the side of her when she went down.

7222. Q. What happened to you after you got in the water?—A. I got in the water and went down considerably. I came up again alongside three men; they all had life preservers on but I had none. I put my hand on their shoulders and was treading water but they promptly pushed me off again, and I went down again. I came up alongside a man named Mr. Burt, who had on a life belt and he had in his hand a suit case he had picked up in the water. I asked him if he would give me the suitcase, and he said: most certainly. I kept myself afloat on that until I had recovered my breath sufficiently to speak properly. Then I said: I want you to help me off with this coat; so he pulled one arm and I got out of the other and I left my coat in the water. Unfortunately I could not get my shoes off and they were a terrible tie. I swam, I should think, within about 30 or 40 or 50 yards of the coal boat; I was then picked up by one of the Norwegian life boats. I was some short time in the life boat and I went on the coal boat and then to the *Lady Evelyn*.

7223. Q. Fortunately you are a very good swimmer?—A. Luckily I am; I have learned to swim, yes.

7224. Q. You were telling Mr. Haight about these earlier signals, and you were answering his questions; I just want to read you this. Do you remember telling him this: 'There was another boat that sounded quite a different fog horn to the fog horn on the collier. I know, because there were two; she seemed to be going the same way as we were. She stopped for a while and she seemed to go on, or we let her go on ahead of us, because I could still hear her for two or three minutes.' Did you have that sort of impression at the time?—A. Yes; I quite remember hearing another boat, and it seemed to be ahead of us all the time.

7225. Q. At any rate, that was your impression?—A. That was my impression.

7226. Q. With regard to the whistles, what you are certain of is this: three short blasts, two long?—A. Three short blasts and then two long following the three short blasts.

7227. Q. About that you have no doubt?—A. No doubt whatever.

Witness discharged.

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GEORGE McONIE, engineer, *Empress of Ireland*, sworn.

Examined by Mr. Haight:

7228. Q. You were one of the junior engineers, McOnie, on the *Empress of Ireland*?—A. Yes, sir.

7229. Q. Were you off watch at the time of the collision?—A. Yes, sir.

7230. Q. Where were you?—A. In my room.

7231. Q. Had you been asleep?—A. No, I was just about to turn in then.

7232. Q. Did you hear signals blown by the *Empress* before you felt the jar of the collision?—A. Yes.

7233. Q. What were the first whistles that you heard blown by her?—A. Well, I couldn't swear to what they were, but I took them for fog signals.

7234. Q. How many times did you hear what you thought was the regular fog whistle?—A. Oh, I couldn't say that.

7235. Q. You are familiar with the regular long blast blown by your steamer when she has headway through a fog?—A. Oh, yes.

7236. Q. Did the whistles which you heard sound to you like that kind of signal?—A. Well, I wasn't paying any attention to them at that time, so they might have been other whistles.

7237. Q. I have a copy of the statement which you originally made to Mr. Holden, and according to that statement, page 59 you were asked:

Q. Did you notice any signals blown on your ship?—A. I noticed the fog signals, that was all.

Q. How many times did she blow the fog signal, as far as you noticed?—A. She seemed to be blowing it two or three times before she went astern. That is what drew my attention to the going astern.

Are these answers correct?

A. The vibrations drew my attention to the going astern.

7238. Q. Is it true that you stated to Mr. Holden the facts that I have read, the statement that I have just given you?—A. Yes, that I took them for fog signals.

7239. Q. That the first that you noticed was the fog signals, and that they blew two or three times before you felt the vibration of the engines going astern?—A. Yes.

7240. Q. That is now your best recollection?—A. Yes, that is it.

7241. Q. I will read one other section from your statement, page 60:

Q. You heard fog signals?—A. Yes, sir.

Q. What do you mean by fog signals?—A. Just the ordinary single blast every minute, or at intervals.

Q. A short blast, or a long blast?—A. Long blasts.

Q. You think you heard three before she went astern?—A. Before we went astern, yes, sir.

That is the statement you gave, is it not?

A. I don't remember saying how many I heard.

7242. Q. Apart from the number, the whistles that you heard were the regular blasts blown at intervals, indicating that the vessel was under way in a fog?—A. That is what I took them to be.

Cross-examined by Mr. Aspinall:

7243. Q. Your recollection is that you heard these long blasts and that you felt the vibration?—A. Yes, sir.

7244. Q. And after the time you felt the vibration did you hear anything that you can remember? Did you notice then whether any whistles were blown or not?—A. Not—

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7245. Q. I want the best of your recollection with regard to whistles?—A. The first one I took particular notice of was the two whistles.

7246. Q. So that if there were three short blasts, according to your evidence, you missed those?—A. Yes, sir.

7247. Q. Then you heard two blasts?—A. Yes.

7248. Q. What information did they convey to you?—A. Struck me she must be signalling to somebody that she was stopped.

7249. Q. Have you been sufficiently long at sea to know what that class of whistle means, the two long?—A. Yes.

7250. Q. What does it mean, according to the regulations?—A. Vessel is stopped.

By Mr. Haight:

7251. Q. The long blasts which you heard were before you felt the vibration going astern?—A. I couldn't swear to that now.

7252. Q. Let me refresh your recollection again:

'I noticed the fog signals, that was all.

Q. How many times did she blow the fog signal, as far as you noticed?—

'A. She seemed to be blowing it two or three times before she went astern.

'That is what drew my attention to the going astern.'

Now, your recollection when you made your statement to Mr. Holden was that the vibration of your reversed engines was after you had heard the long whistles blowing the two or three times. That was your recollection then, was it not?—A. Yes, sir.

7253. Q. Nothing has happened since to change your recollection on that point?—A. No.

Witness discharged.

LORD MERSEY.—These are the three witnesses?

MR. HAIGHT.—Yes, my Lord.

LORD MERSEY.—Now, do you propose to call Mr. Reid?

MR. ASPINALL.—May I apply on behalf of the sailors of the *Empress of Ireland*, who are very anxious, Mr. Gibsone tells me, to get away. I believe there is some boat that is sailing at three o'clock. My application is—

LORD MERSEY.—Do you mean whether we can let these men go?

MR. ASPINALL.—I am told that those anxious to get away are not only the sailors, but the passengers and also the officers. Naturally, that does not apply to Captain Kendall. I do not know whether Your Lordship desires that any of the officers should remain; they are very anxious to go.

LORD MERSEY.—What do you say, Mr. Haight?

MR. HAIGHT.—I think possibly that the court will wish to have Mr. Jones here, as well as Captain Kendall.

LORD MERSEY.—I do not want Captain Kendall to go.

MR. ASPINALL.—No, I do not suggest that he should go.

MR. HAIGHT.—Mr. Jones, your Lordship, was the senior officer of the watch. Captain Kendall theoretically is always in command, but it was Mr. Jones' watch. As there will be questions as to his testimony, your Lordship may wish to have him here.

LORD MERSEY.—I do wish Captain Kendall to stay; we may want to ask him some questions. Is there any objection to keeping Jones?

MR. ASPINALL.—No.

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LORD MERSEY.—Mr. Aspinall, we think that Captain Kendall ought to be kept; we think that because Mr. Haight wants him Jones ought to be kept, and some of us think that perhaps it might be worth while to keep the chief engineer.

MR. ASPINALL.—I am sorry to hear your Lordship say that; he is particularly anxious to get away.

LORD MERSEY.—Speaking for myself, I thought that we had all that we wanted.

MR. ASPINALL.—I am told that he and his wife have been very seriously disturbed by this catastrophe, and that he is extremely anxious to go; but if the court wishes him to stay, he shall stay.

LORD MERSEY.—We are of the opinion that it is not necessary to keep him.

MR. ASPINALL.—May I remind your Lordship that he was not in charge of the engines. The man who was in charge was examined; we will keep him.

LORD MERSEY.—I beg your pardon, Mr. Newcombe, I did not ask you whether you wished to ask the witness any questions.

MR. NEWCOMBE.—No, my Lord, it is not that. It was suggested by one of the members of the court that a navigator should be called to testify as to the usual course of proceeding to sea after putting down the pilot at Father Point. I have Captain Murray here; he is the harbour master at Quebec—a master of long experience in the St. Lawrence route—and has already testified. He has been with the Canadian Pacific Railway Company, although he has no connection with them now, and he is the only captain of his class available at the moment.

LORD MERSEY.—Is that the best evidence that you have at present available?

MR. NEWCOMBE.—Yes, it is the only sort of satisfactory evidence that we have at the moment.

CHIEF JUSTICE MCLEOD.—I think the suggestion was mine; my intention in making it was to have the testimony of some independent captain who is not connected with the Canadian Pacific Railway.

MR. NEWCOMBE.—He was in command for two or three voyages, I think. Tomorrow we may be able to get a captain from the White Star Line in Montreal. There is a ship going out on Saturday, and we may possibly be able to get him here. There is no Allan line captain here.

LORD MERSEY.—Mr. Haight, tell me this: assuming that Captain Kendall did take the courses that he says he took, do you say they were wrong courses?

MR. HAIGHT.—I say they were wrong only because of the presence and the position of the *Storstad*.

LORD MERSEY.—I think I understand that. You do not say that they were not the normal courses taken by ships of this class putting out to sea?

MR. HAIGHT.—According to my judgment, my Lord, if the *Storstad* had been out on the Atlantic instead of coming up the St. Lawrence, he might have left Father Point on any course that he saw fit, so long as he steered clear of the rocks. The water is all his, and he may do as he likes with it.

LORD MERSEY.—Yes, but that is not quite the answer that I want. Eliminating the *Storstad* altogether and assuming that there were no exceptional reasons for taking a different course, I want to know whether you think that the courses which he did take, if he is telling the truth, were proper courses.

MR. HAIGHT.—I see no possible reason for criticising the courses which he took, except with reference to the *Storstad's* position.

LORD MERSEY.—Then I think you need not call this gentleman, Mr. Newcombe.

MR. NEWCOMBE.—Very well, my Lord. Perhaps I ought to mention, before Mr. Reid is called, that we have taken advantage of the recess to examine the statements

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which were handed in by my learned friends, taken from the crew and passengers who were examined, with regard to the question of watertight doors and port holes. We find no testimony there which is worth mentioning with regard to the doors, but three witnesses, passengers, referred to water coming in through the port holes. These witnesses are not here; two of them appear to reside in the West and the other one in England. As these statements were made with respect to the subject at a time when the witnesses had no interest in misrepresenting the facts according to their recollection, I thought that possibly it might be proper for me to read those statements.

LORD MERSEY.—Mr. Aspinall and Mr. Haight, have you seen the statements to which Mr. Newcombe refers?

MR. ASPINALL.—Yes, my Lord.

MR. HAIGHT.—I could not hear what Mr. Newcombe said, my Lord.

LORD MERSEY.—Mr. Newcombe said that they have been seeking for information about water-tight doors and about port holes; that they have not been able to get any further testimony with reference to the water-tight doors, but that apparently some time ago three statements were taken with reference to port holes. Those are statements by people who are not here; two of them are in the West and one is supposed to be in England. Mr. Newcombe's suggestion is that their statements might be read for what they are worth and form part of the proceedings. Personally I see no objection to that being done, but we can only have it done by consent.

MR. HAIGHT.—I am entirely willing to consent, my Lord; I can see no reason why I should need to cross-examine.

MR. ASPINALL.—I had thought that Mr. Haight would take the course which he has taken, because it really does not concern him.

LORD MERSEY.—Well, it does not, I think.

MR. ASPINALL.—No, this is a court of inquiry; I quite appreciate that it is not the best evidence, but it is some evidence, and I should submit that it would be right for Your Lordships, under the circumstances, to admit it.

LORD MERSEY.—Very well, then; we are disposed to admit it; we will take it for what it is worth. Perhaps you will read them to us, Mr. Newcombe.

MR. NEWCOMBE.—I should think that it would not be necessary for me to read the entire statements, because they are mostly concerned with matters not entirely relevant to the inquiry.

LORD MERSEY.—Read the parts that appear to you to be relevant.

MR. NEWCOMBE.—James Ferguson Dandy, aged 47 years, residing at Pierson, Manitoba, being called makes the following statement:

‘Examined by Mr. Holden, K.C.

Q. You were a passenger on the *Empress of Ireland* when the collision occurred?—A. Yes, sir.

Q. Do you remember the number of your stateroom on the *Empress*?—

A. It was number 564.

No. 564 is on the starboard quarter. It is the aftermost room on the ship, on the main deck.

Q. Were you alone?—A. There were three of us in the room.

Q. At what time did you turn in on the night of the 28th?—A. I went to bed fairly early that night.

Q. Well, what woke you up first?—A. I think it was the noise of the water coming in through the port holes.

Q. You did not feel the shock of the collision, did you?—A. No, sir.

Q. Did you hear any signals at all?—A. No, sir.

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Q. Were you in the upper berth or the lower one?—A. I was in the lower berth.

Q. You think it was the inflow of water through the port holes that awoke you?—A. Yes.

Q. And then what did you do?—A. I was sleeping very soundly, and the man who was sleeping on the other side said there is something wrong, and he jumped up and turned on the light, and my first thought was that we were out at sea, and that a storm had arisen, and I thought that it was worse than I ever thought it was. I then looked down and I saw somebody's grip floating along the floor. I saw the water quite well, and I jumped up and went up as quickly as I could, and I went up the first stairs and in the alley-way it was that steep that it was hard work to get along, and I had to hang on to the wall. But, I then got out through the side.'

Then, passing on to another point:

'Q. You have told us that you were awakened by the water coming in through the port hole?—A. Yes, sir.

Q. Well, how long was it after you were awakened by the water coming in that the *Empress* sank?—A. I jumped out of bed and went on top, and I would think that it would be about three or four minutes.

Q. Of course, you do not know how long before you woke up that the collision occurred?—A. No, sir.

Q. It was after the collision that you woke up?—A. Yes, sir, it was the water rushing in through the port holes that awakened me.'

LORD MERSEY.—The important part, from your point of view, of that testimony is that he was awakened by the water rushing in through the port in his cabin.

Mr. NEWCOMBE.—Yes, my Lord. That is what I understand it to be. Now then, Walter Erzinger, aged 42 years, residing at No. 290 McDermott Avenue, Winnipeg, being called makes the following statement: Passenger, Room 518. 518 is an inside room; it is in the middle of the ship, on the inside of the passage, slightly on the star-board side. He says:

'Q. You heard no whistles before the shock?—A. No, sir. Right after the shock I did not hear anything around me, and I thought nothing was wrong, and I intended to lie down again to go to sleep but I heard somebody running along above me, and I felt the ship was already listing.

Q. Were you alone in that room?—A. There was another passenger with me—I do not know his name, but he was from Western Canada. He was an old man—he was about fifty years of age—he seemed to me a man about that age.

Q. You do not know whether he survived. do you?—A. I do not think so, because he had another friend on the boat and he said he did not see him any more. So when I realized that the ship was listing I jumped from my upper berth. I jumped down and put on my pants which were lying on my bed—I then took down the life belts and gave one to my fellow passenger and we ran out. The same moment we heard already the water rushing in through the windows and we had great difficulty in walking through the alley-way.

Q. You experienced this difficulty on account of the ship listing over, I presume?—A. Yes, sir, because of the list.'

The other is James Walker, residing at No. 58 Derwent Street, Workington, Cumberland, England, teamster, aged 26 years, who was called and made the following statement:

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Examined by Mr. A. R. Holden, K.C.:

Q. You were one of the third-class passengers on the *Empress of Ireland* when the collision occurred?—A. Yes.

Q. Do you remember the number of your room?—A. I think it was No. 630. I am not sure."

No. 630 is on the starboard bow of the main deck, pretty well forward.

Q. How many were in your room?—A. Four.

Q. What time did you turn in that night?—A. I turned in about half past ten or ten o'clock.

Q. Did you fall to sleep promptly?—A. Yes, sir.

Q. What woke you up?—A. The first thing that woke me up was the water coming in on the bed.

Q. Did you have a lower berth?—A. No, I had an upper berth.

Q. Was your room on the starboard side of the ship?—A. Yes.

Q. You did not feel the shock of the collision at all?—A. No.'

Then further on:—

"Q. While it was still foggy, and before it cleared up, have you any idea how far you could see a light?—A. You could not see very far when I came out.

Q. What do you suppose "very far" would mean? How near would the light have to be before you could see it?—A. It would have to be very close, I think.

Q. As a matter of fact, the captain says it was fifty feet before it became visible. I suppose "very far" is as near as you can say?—A. Yes.

Q. How long do you suppose it was from the time you were awakened by the water in your cabin until the ship sank?—A. About seven minutes.

Q. Did you hear any signals at all of any kind after you woke up?—A. No, I did not hear any.'

Another question:—

'Q. After you turned in, you did not waken until the water woke you up?—A. No.

Q. When you woke up, did you notice whether the ship's engines were going or whether they were stopped?—A. The ship's engines were stopped.

Q. They had stopped before you woke up?—A. The ship was standing still.

Q. Did you see the *Storstad* at all at any time after the accident?—A. I saw her after I was in the water.'

Mrs. Helena Hollies, residing at No. 10, Empire Street, West Derby Road, Liverpool, aged 34 years, being called makes the following statement:—

'Q. What woke you up?—A. The rushing of the water.

Q. You did not even feel the shock of the collision?—A. No.

Q. Nor, I suppose, did you hear any whistle signals at all?—A. No.

Q. Have you a room mate, or were you alone?—A. There were three or four of us in the same room.

Q. When you say you were wakened by the rushing of the water, do you mean the rushing of the water actually into your room?—A. Yes, into the room.

Q. Through what part? Through the port?—A. I could not say whether it was coming through the ports; it was in the alleyways.'

LORD MERSEY.—That does not refer to the port in her room?

Mr. NEWCOMBE.—She does not say what her room is; that is the reference which is made to the ports in that case.

LORD MERSEY.—There is one matter, Mr. Newcombe, to which you may direct your attention when you come to address us, and it is this: in ships such as the *Empress*, which have the apparatus for closing the water-tight doors from the bridge, whether it

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would be desirable or practicable in cases of fog to order that all the water-tight doors be closed; whether it could be done and whether it is desirable that it should be done.

Mr. HAIGHT.—Is it practicable that I should supplement one of the statements read by Mr. Newcombe by an additional quotation?

LORD MERSEY.—Certainly.

Mr. HAIGHT.—Is it to be marked?

LORD MERSEY.—Certainly; I understand that the whole of the statement is to be marked as an exhibit. The whole statement is in evidence; therefore you would be entitled to refer to any part of it.

Mr. HAIGHT.—Would it be of assistance if I made the reference now?

LORD MERSEY.—I think you had better refer to it now.

Mr. HAIGHT.—It is a statement made by Erzinger.

Chief Justice MCLEOD.—The same witness to whom Mr. Newcombe has referred?

Mr. HAIGHT.—The same witness whose evidence Mr. Newcombe has already read. From pages 596 to 597, I take the following quotations:

‘At first I did not see any lights at all around, but later on I saw appear two lights. These were the two lights of the collier that struck us.

By Mr. Pentland, K.C.:

‘Q. How far off were those two lights that you saw?—A. It seemed to be quite a distance, and it was not right in front of us—it was behind.

By Mr. Holden, K.C.:

‘Q. It was astern of you?—A. Yes, sir.

‘Q. Were they white lights or coloured lights that you saw?—A. They were two white lights on top of the masts.’

I have not had a chance to run through the other statements.

LORD MERSEY.—If there is anything else, later when you come to address us, you may refer to it.

(Statements filed as exhibit G-1.)

JOHN REID, naval architect, sworn.

Examined by Mr. Haight:

7254. Q. What is your profession, Mr. Reid?—A. Naval architect.

7255. Q. Where did you obtain your education?—A. On the Clyde, and elsewhere.

7256. Q. What practical experience have you had in ship-building, ship designing and construction?—A. Twenty-five years; 13 years a ship-builder and the rest as naval architect.

7257. Q. Where was your ship-building experience obtained?—A. On the Clyde, on the Mersey and on the Tyne.

7258. Q. With what different yards?—A. Stephen on the Clyde, just below Fairfield, where this boat was built; Cammell, Laird & Co., on the Mersey, and Armstrong, Whitworth, on the Tyne.

7259. Q. Where have you been practising as a naval architect, on this side or the other?—A. Both; I have offices on both sides.

7260. Q. You have now?—A. Yes.

7261. Q. Just give me roughly, Mr. Reid, an idea of what boats you have designed and built; that is, how many and of what character, in general terms.—A. In the

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employ of Alexander Stephen & Son I had to do with the designing and building of the *Tunisian* and a large number of Atlantic liners, both first class and intermediate ships.

7262. Q. Name some of them.—A. *Alexandra*, *Boadicea*, *Bohemian*, and quite a few others.

7263. Q. What experience have you had subsequently?—A. I have designed a large number of vessels of all kinds of types.

7264. Q. Will you name a few of these?—A. Well, a large number of Canadian canal vessels, small passenger vessels, tugs and so on.

LORD MERSEY.—I think we may fairly credit this gentleman with a sufficient and proper knowledge of his profession.

By Mr. Haight:

7265. Q. Did you, Mr. Reid, at my request examine the physical damage sustained by the *Storstad* in her collision with the *Empress of Ireland*?—A. I did.

7266. Q. Where was the examination made?—A. At Montreal.

7267. Q. Will you please state for what purpose the examination was made?—A. To see if it could be determined how the damage to the *Storstad's* bows had been brought about by contact with the *Empress*.

7268. Q. Did you make your examination with particular reference to the angle of contact and the depth of the wound?—A. I did.

7269. Q. Did you also note such evidence as there was of the movement of the vessels after they came in contact?—A. I did.

7270. Q. Did you have submitted to you a cross-section, midship section, of the *Empress of Ireland*, which is an exhibit in this case?—A. I had.

7271. Q. What other data did you have to work on in the first instance?—A. I had the draught of the *Storstad*, the draught of the *Empress* and an approximate position for the contact.

7272. Q. What did you assume the draught of the vessels to be?—A. I took the *Storstad* at 25 feet low draught and I took the *Empress* draught giving me a mean midships of 27 feet 9.

7273. Q. According to the testimony of yesterday, 27 feet 9 mean would be Quebec draught?—A. Yes, that is right.

7274. Q. There would be a difference, therefore, in the vessel's draught when she reached Father Point?—A. Yes.

7275. Q. Have you taken that fact into account?—A. I have.

7276. Q. What is the general construction of the ship?—A. She is constructed in the longitudinal or Isherwood system.

7277. Q. How does the fore and aft strength of a vessel built on that system compare with the ordinary construction of frames that run like ribs round the vessel?—A. It is considerably in excess against deformation by collision, collapse, or crushing of the material of the bow.

7278. Q. A vessel built on that design and running head on to anything has practically all of her frames meeting the blow endwise?—A. That is correct.

7279. Q. Will you be good enough to state, in detail, the various facts of deformation which you found on the bow of the *Storstad*?

MR. HAIGHT.—I have prepared, if the Court please, copies of the Exhibits previously submitted, which I think your Lordships will find convenient in following Mr. Reid's testimony.

By Lord Mersey:

7280. Q. Are you going to use the model, Mr. Reid?—A. I was going to use the model to show the general deformation of the bow of the *Storstad*, and I was going to use the photographs to show the detail, because the actual marks are not shown on the model. They are too minute.

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7281. Q. Well, take the model first?—A. After examining this deformation of the bow, my Lord, I wished to try to reconstitute the contact as nearly as possible, and I made careful measurements and plans in order to determine just what angle was the most likely to have brought about this extraordinary movement of the stem, this heavy crushing, and the displacement of the anchor.

7282. Q. That is on the starboard side?—A. Yes, my Lord. When a collision takes place between a vessel such as the *Storstad*—I might say when a vessel such as this strikes another, the stem always gives indication very quickly of what has happened at the first moment. The stem is a heavy bar, which is full of holes. It is almost inevitably broken by the contact, as actually happened in this case. The head was knocked off by the contact with the shelter deck of the *Empress*. It snapped off short at the deck, and I was much surprised to find there was no appearance on this stem of having been in contact with the *Empress* at all. I should have expected to find scores across it.

I therefore came to the conclusion that this was not the place of first contact, but that the stem had been turned by some agency so that the bar did not actually come in contact with the *Empress* at the first moment. That put out of the question a right angle blow, or any blow in that neighborhood. I then turned to an angle of forty-five degrees—simply an arbitrary attempt to find the angle—and I tried the *Storstad* up against my drawings of the *Empress* at that angle.

Now the *Empress* has a 'tumble-home' which is rather a difficult thing, that is it complicates things, so I eliminated that for the time being.

7283. Q. What is that, Mr. Reid?—A. The side of the *Empress* has a fall-in from the water line of about 13 inches at the shelter deck, but I intend for the moment to eliminate that, so as to avoid complicating the calculation. I wished, in other words, a vertical detailed plane to bring the *Storstad* up to, and to make allowances afterwards for the tumble-home. I took a plane through the whole side of the *Empress*, about amidships. She has very little fore and aft shaping, so I was clearly correct in taking it that the *Storstad* had entered at a perfectly vertical line, and one going practically straight fore and aft. That is to say, I was bringing this vessel up to a plane parallel to the vertical centre line of the plan of the *Empress*.

I found, my Lord, that down here on the stem, there was a very big part of the stem turned this way, to starboard, whereas the rest of the stem had gone over to port.

In other words, there was an initial tendency to go to starboard. And I came to the conclusion that that was caused by the *Storstad* striking the orlop deck, or the orlop deck stringer, of the *Empress*, and then being pulled over this way, and then before any large result of that could accrue, the anchor of the *Storstad*, which was hanging in its hawse-pipe, came in contact with the side of the *Empress*. It was projecting about 18 inches from the normal side of the *Storstad*.

The result, my Lord, was this; that the anchor was driven right through its hawse pipe, a very heavy casting, and was caught here, as shown in the photographs, and that set this stem starting to go over.

Now I ought to add a little explanation about the Isherwood system, to what was said yesterday. Our longitudinal frames—each longitudinal frame, as it goes up to the stem, is held to its corresponding frame by a small triangular bracket, and these are only 18 inches apart up here in the bow. And with the bar, and the two places of plating here, and these brackets, you have as it were a triangular section of girder, all the way down the stem, and the whole thing went over, getting the initial impulse here (indicating).

MR. HAIGHT.—When you say 'here' will you, for the benefit of the stenographer, say over to port or over to starboard, as the case may be, at the same time designating the spot on the model?

LORD MERSEY.—I am very much afraid, Mr. Haight, that the shorthand notes of all this won't amount to very much. The shorthand writer of course cannot possibly

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help that, but you see the witness is continually saying 'here' and 'there' and pointing to the model, and that means nothing on the record.

MR. HAIGHT.—No, and if the witness will just bear that in mind and say to port or to starboard, or inboard or outboard, as the case may be, and use expressions of that kind, it would be much more intelligible when we come to read it.

7284. Q. Will you please proceed, Mr. Reid?—A. The anchor, my Lord, was caught momentarily between the bow of the *Storstad* and the side of the *Empress*, and the reason that the force was so great was that just at this place the deck of the *Empress* is only a foot below the corresponding deck in the *Storstad*, that is, these two decks were almost face to face and the anchor was caught between them.

7285. Q. Have you designated on the cross-section drawing, Exhibit N, I think it is, the relative position of the *Storstad* and the *Empress*?—A. Yes.

7286. Q. Will you please show that to the court?—A. Yes, I simply turned over this edge your Lordship, and that gives the position of the *Storstad's* stem, relative to the decks of the *Empress*. Here is the anchor (indicating), and the position of the hawse-pipe, and the deck which comes almost opposite the upper deck of the *Empress*, and you have the other decks further down on the *Empress*, which left their marks on each side of the *Storstad*, which I shall come to.

MR. ASPINALL.—My Lord, I was unable to follow that. Could the witness repeat what he has just said.

LORD MERSEY.—Now, do you mean—

MR. ASPINALL.—Well, of course, I can ask him later.

LORD MERSEY.—No, I think it is convenient to ask him now. I think you should look at that plan, Mr. Aspinall, and have him explain it to you as he explained it to us.

By Mr. Aspinall:

7287. Q. Will you just tell me, Mr. Reid, what you have just told his Lordship?—A. Yes. (Here the witness stepped down to counsel's desk and exhibited the plan in question to counsel and repeated the remarks he had made in answer to Lord Mersey.)

MR. HAIGHT.—May the witness proceed, my Lord?

LORD MERSEY.—Yes, go on with your explanation, Mr. Reid.—A. Well, my Lord, this was the initial impulse, to turn this stem, your Lordship, which I wish again to emphasize was almost like a triangular section of girder all the way down the stem, on account of these brackets being tight together. As the contact continued and the *Empress* side turned out on account of the tumble-home, the stem came in contact with deck after deck, continuing this impulse. Now, this initial impulse here (indicating) which was going the opposite way, came in contact with that (indicating), and just here, where it turns to starboard, there is a scarf in the stem, in other words, the stem is put in in two pieces with a scarf connection, and that scarf opened and made this tendency die away. I only wish to call attention to this point—it is not really of great importance—that the first contact was here just at the fore-foot. Now, to come to the port side, here you have, my Lord, a deep hollow or bay in the plating, that is on the port side of the *Storstad's* stem.

7288. Q. Would you repeat what you said just now—I think I understood you to say that the first contact, the first point of contact, was at the bottom of the stem?—A. Just at the fore-foot, my Lord, about thirteen or fourteen feet up from the keel line of the *Storstad*, that is where the orlop deck stringer of the *Empress of Ireland* comes.

7289. Q. Yes, now let that be so—you say that is about fourteen feet up from the bottom of the *Storstad*?—A. Yes.

7290. Q. Does it go through beyond the line of the stem? I should have thought it was more in than that?—A. The stem of the *Storstad* is almost vertical.

7291. Q. Almost vertical, but if it inclines at all, doesn't it incline inwards?—A. No, sir, it goes the opposite way, because she was somewhat trimmed, and the stern of
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the *Storstad* was a little lower, which would turn the head of the stem inwards about an inch or an inch and a quarter. And besides, the side of the *Empress*—

7292. Q. Never mind the side of the *Empress* at present. I wanted to get at the construction of the *Storstad* itself. Now do you say it is not vertical, Mr. Reid?—A. It is not. It falls in about an inch.

7293. Q. It falls towards the bottom about an inch inwards?—A. No, it falls in this way, my Lord, the head of the stem is somewhat towards the *Storstad's* stern.

7294. Q. Give me the model, please?—A. Yes, my Lord.

7295. Q. What is the bar in front intended to represent?—A. That is the original stem bar.

7296. Q. And it does go in at the bottom, there?—A. Yes.

7297. Q. Well how far is that point above the bottom of the stem?—A. About twelve or thirteen feet.

7298. Q. Then at that point it begins to turn in?—A. Correct.

7299. Q. That is what I mean?—A. Yes, my Lord.

7300. Q. And then from that point upwards does it come up absolutely vertical?—A. No, it falls off an inch.

7301. Q. In that way, that is towards the stern?—A. Yes, my Lord, about an inch.

7302. Q. Now then, this ship was, I suppose, down by the stern a little?—A. Yes.

7303. Q. Well would that fact cause the stem to be altered a little in its position?—A. That is correct, my Lord.

7304. Q. How much was the *Storstad* down by the stern?—A. One foot.

7305. Q. In what length?—A. In 440 feet.

7306. Q. Now does that make any appreciable difference in the position of the stem for the purpose of this case?—A. It makes very little.

7307. Q. Well I mean to say, if it doesn't make any difference that is appreciable, we will dismiss it from our minds. I should have thought that in 440 feet it is of no consequence at all?—A. What I am trying to point out, my Lord, is that the initial tendency was so short and slight that it was a very small thing, and you have to look for very small reasons.

7308. Q. Well do you mean to say that this is of any importance, this fact that the *Storstad* was down by the stern?—A. It is important in determining the initial entrance of the *Storstad's* bow.

7309. Q. Well if it is not important, we will not bother with it, but I understand that you think it is important?—A. Yes, my Lord, I think it is of importance.

7310. Q. Well then, how much would the fact that the *Storstad* was down a foot cause the stem of the *Storstad* to alter its position?—A. In the full height of the stem from the keel, it makes a difference of about an inch and a quarter.

7311. Q. But up there?—A. The difference in the full length of the stem is about an inch and a quarter.

7312. Q. Where, at the top of the stem?—A. Yes.

7313. Q. Now what is the fall-back where the stem begins to curve in, twelve or thirteen feet above the keel, is it appreciable?—A. It is trifling, but we have to consider—

7314. Q. Well how much is it?—A. Well, it is one-third of an inch and a quarter.

7315. Q. Well, how much is one-third of an inch and a quarter?—A. That is $\frac{1}{2}$ of an inch. We have to go up and see this other contact, which neutralizes that.

7316. Q. But your opinion is the first point of contact was down here?—A. Yes.

7317. Q. Very well, I have the first point of contact. It was down here—(indicating)?—A. Yes.

7318. Q. Well how much does this fact that the stern was a foot down affect this point?—A. Well only a little over a quarter of an inch.

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7319. Q. Well, if that is important, we will direct our attention to it, but if it is not I want to dismiss it from my mind?—A. Well, it is not of very great importance.

7320. Q. No, I am not asking you that, but is it a thing that we need not trouble ourselves about?—A. It certainly is important, my Lord, to determine where the initial contact took place.

7321. Q. Then is one of your calculations so fine that it is based on the assumption that at the bottom of the *Storstad's* stem the position was affected by a quarter of an inch, by the fact that she was down at the stem one foot?—A. I don't work it that way, my Lord.

7322. Q. Well how do you work it?—A. I allow for the full extent of the fall-back, right up to the top of the stem, because it is up there the other impulse began to neutralize the earlier one.

7323. Q. Well, I am only trying to understand it myself, and I am probably not looking at it from the same point of view as you are. Now, so much for the bottom of the stem, or I mean about twelve feet up. Now where do you say that stem, which, by reason of the fact that the stern is a foot down, poked out a quarter of an inch beyond what it would have poked out if she had been on an even keel—where does that point of the stem in your opinion strike the side of the *Empress*?—A. Just upon the orlop deck stringer, which takes the place of the orlop deck in that neighbourhood.

7324. Q. Now on that plan which you have did you indicate that spot?—A. Yes, I did, my Lord.

7325. Q. Well now, will you show it to us again?—A. Yes, there is the position, my Lord (indicating).

7326. Q. Here—it is somewhere about here?—A. Yes.

7327. Q. Which is slightly above the orlop deck?—A. Yes, my Lord.

7328. Q. How many feet above?—A. A foot or eighteen inches.

7329. Q. Then that in your opinion was the point where it first struck the *Empress*?—A. Yes, my Lord.

7330. Q. Well now, tell me this, taking the *Empress* from the orlop deck upwards to the rail, does the side of the *Empress* curve inwards or outwards?—A. It goes up perfectly straight to about the loadline and then curves in.

7331. Q. Now need we trouble about the load line for a moment?—A. Only as indicating the place where the tumble-home begins, my Lord.

7332. Q. Yes, but for the purpose of the idea which is running in my mind, it doesn't seem to me to be material. You believe that the whole stem of the *Storstad* from the point where it touched the *Empress* at the orlop deck, ran up vertically?—A. No, my Lord, you have projecting strakes of the plating, my Lord, sticking out.

7334. Q. Sticking out from where?—A. From the side of the *Empress*.

7335. Q. I thought you said just now that the side of the *Empress* went up vertically?—A. It does, my Lord, but the strakes of the plates stick out an inch or more, at certain places. These strakes were sticking out.

7336. Q. Yes, and what are these things that stick out?—A. Strakes, the shell of the plating.

7337. Q. And do they protrude beyond what we call the shell?—A. They form the shell, my Lord, but some are inside and some are outside, and it makes a difference of an inch or more.

7338. Q. And the plates lap over?—A. Yes.

7339. Q. Causing some of the plates to be an inch or more in front of the other plates?—A. Yes.

7340. Q. And so it produces irregularities on the side of the *Empress*?—A. Yes.

7341. Q. Very well then, subject to the observation you have just made, the two lines, the line of the stem of the *Storstad* and the line of the skin of the *Empress*, above the orlop deck, were both vertical?—A. That is right.

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By Mr. Haight:

7342. Q. But the vessel's side begins to tumble home, as you say; do I understand that from the point of tumble-home it goes absolutely vertical, perpendicular to the line of the water?—A. No, it is below the load line, it goes down perfectly vertical.

On the port side, my Lord, there is a very deep bay, extending right down the stem of the *Storstad* and corresponding to this bend on the starboard side of the *Storstad*. That bay comes about somewhat in this fashion: when you attempt to turn that triangular girder containing all those brackets over by pressure on the starboard side, and the plating cannot get away, for it is held by the longitudinals and cannot get aft, it must crush into this bay. Besides that, there was another tendency going on assisting this, which tendency was caused in my opinion by the rolling over of the broken plating of the *Empress*.

LORD MERSEY.—Well, I am afraid I don't understand that.

A. If you attempt, my Lord, to drive, not with a sudden blow but with an extraordinarily heavy push—

7343. Q. Not a direct blow?—A. No.

7344. Q. But a slanting blow?—A. Yes, and more a crushing than a hammering—if you try to drive a form like that into a steel plate, including for a moment the frames and the bulkheads behind it, you crush and deform that plating, and the bows bent the plating in a certain distance, and then burst the plating, and that plating on the starboard side remains pretty much where you started. But the plating on the other side, that is on the port side of the bow of the *Storstad*, is driven forward, and inwards, and is rolled over, and that rolling of the plating of the *Empress* occurred on the port side in which is this bay on the side of the stem of the *Storstad*.

7345. Q. That is to say, to put it in ordinary language, the nose of the *Storstad* is found inclined to the port side?—A. That is correct. That plating, my Lord, that I speak of, is rolled over and couldn't get out of the way, because I bring this vessel in near a place or at a place on the side of the *Empress* where there are heavy resistances. When I first made my contact, my longitudinal contact, I thought I was on a bulkhead, on one of the main bulkheads of the ship, and I assumed that was the case, because it had been stated so frequently that this bulkhead had been broken, so I assumed that I had struck it close up to the bulkhead, that is that the *Storstad* had struck the *Empress* there, and that the stem had gone on beyond it and punched that bulkhead and broken it. Althought I couldn't understand why, again, this stem bar had shown no marks upon its face, because a bulkhead is full of angles, it is criss-crossed with angles; and on the steel that is on the face of this stem, there was absolutely no mark, except a little plating torn away from it.

7346. Q. Now, let me ask a question—assuming that the blow was not, as I take it clearly it was not, a straight on-end blow, but was a slanting blow?—A. Yes, my Lord.

7347. Q. Would you expect to have the edge of the stem affected?—A. No, my Lord, not at an angle of 45 degrees, which I am taking for the entrance.

7348. Q. And you did not find it affected?—A. No.

7349. Q. If it had been a blow at right angles you would have found it affected?—A. I should have found it broken, my Lord, for certain.

7350. Q. And it was not really broken, so therefore it was not really a direct blow at right angles?—A. I did not so find it, my Lord.

7351. Q. And the evidence shows, apart from the fact that the stem is not broken—this bar you have made on your model—it shows that the impact was not on the stem?—A. Absolutely, I think.

7352. Q. Then it was a side blow?—A. That is correct, my Lord.

7353. Q. Now will you proceed, Mr. Reid?—A. After the anchor had done its work along the stem it was caught between the two decks and driven right through the

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hawse-pipe, and plating, and brought up all standing twelve feet six inches abaft its original position, as near as I could measure it, into a sort of pocket which it formed in the plating. I found the anchor-flukes projecting in a very ugly fashion, as if they had been in the wreck of the *Empress* on the starboard side of the *Storstad*.

7354. Q. Now will you tell me about that—the anchor was presumably in the hawse-pipe before the collision?—A. Yes.

7355. Q. How big is the hawse-piping?—A. Two and a half to three inches, my Lord, with a very heavy mouth.

7356. Q. The anchor was on the starboard side of the ship?—A. There is an anchor on the starboard and one on the port.

7357. Q. But the anchor you are talking about is on the starboard side of the ship?—A. Yes, my Lord.

7358. Q. And that was driven in, I understand, into the hawse pipe, and the hawse pipe is broken?—A. Yes, that is correct.

7359. Q. Are you of opinion that it was the side of the *Empress* that drove that anchor into the hawse-pipe and caused the hawse-pipe to be broken?—A. Certainly.

By Mr. Haight:

7360. Q. Mr. Reid, will you please refer to the exhibits, the photographs, which show the position?

LORD MERSEY.—Well, Mr. Haight, I don't like photographs. They are most deceptive to me?—A. I only wish to use them, my Lord, to show certain very prominent traces of certain parts of the *Empress*.

7361. Q. Well, if you use them for that purpose, we shall be able to follow them, but I should be sorry to accept these photographs as demonstrations of what we would see if we were there?—A. I shall not use them for that purpose, my Lord.

7362. Q. Don't you agree with me, Mr. Reid, that photographs are deceptive?—A. Very deceptive, my Lord. I tried to scale some and I found it impossible.

By Mr. Haight:

7363. Q. But the photographs filed as Exhibits D and E do show the position of the anchor and the hawse-pipe?—A. Yes, they show it fairly well.

LORD MERSEY.—My colleague on the left (Sir Adolphe Routhier) has not seen the stem of the *Storstad*, but my colleague on the right, (Chief Justice McLeod), and I have seen it. The witness described the look of this anchor very well, when he said it was a very ugly looking thing.

7364. Q. Now, look at these photographs which Mr. Haight wants you to look at?—A. Yes, this one that your Lordship has just handed to me is the other side of the ship.

7365. Q. The other side?—A. Yes, the port side.

7366. Q. I was going to ask you about that—I thought that seemed to be a photograph of the port side?—A. Yes, and it is the starboard side that I am describing, my Lord. When I looked at this I was wondering about it, and then I realized it was a photograph of the port side.

7367. Q. Then, this one that I hand you now is a photograph of the starboard side of the *Storstad*?—A. Yes, my Lord, that shows the position of the anchor on the starboard side.

7368. Q. Yes?—A. I consider, my Lord, that the position of that anchor, brought up, on the starboard bow of the *Storstad*, shows one of the limits of the penetration of the *Storstad*. That is to say, the anchor was caught in the side of the *Empress* and the *Storstad* pressed on. The *Empress* carried that anchor back, crushed all the plating up, and brought it to rest at a certain point, and there the *Storstad* came to rest on that side.

7369. Q. Now, can you tell me how far the damage to the stem of the *Storstad* extends towards the stern?—A. Not more than 14 feet, my Lord, from the original stem.

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7370. Q. That is on the starboard side?—A. Yes, on the starboard side. That allows 12 feet 6 inches for the movement of the anchor, and two feet from the original stem, making altogether, about 14 feet 6 inches on the side of the ship.

7371. Q. You know you have been assuming all the time that the blow was a slanting blow. I suppose you cannot fix with absolute precision the angle of the blow?—A. Very closely, my Lord.

7372. Q. Then taking your best judgment, as to what the angle of the bow was, how long, along the skin of the *Empress*, was the blow felt? In other words, for what length was the skin of the *Empress* opened?—A. About twelve feet at this point. I have a drawing of the hole as near as I can make it.

7373. Q. But I don't understand that, because you say the stem of the *Storstad* is damaged to a length backwards towards the stern of 14 feet 6 inches?—A. Correct.

7374. Q. Well doesn't it follow that to that extent the starboard side of the *Storstad* must have found its way into the hull of the *Empress*?—A. In a diagonal line, yes.

7375. Q. Now can you determine for what length the skin of the *Empress* must have been cut?—A. The distance between this point and the opposite point here, because the *Storstad* goes in to the *Empress* on this side, and gets the other side also into the hole in the *Empress*, that is the port side of the *Storstad* as well. The bow has already penetrated. Here is the line of the *Empress* in this direction (indicating).

7376. Q. But I don't think you understand what I mean—bring the model here and I can show you—

By Mr. Haight:

7377. Q. If your Lordship will allow me—have you, Mr. Reid, prepared a drawing showing the malformation of the decks of the *Storstad* and the approximate angle of contact?—A. Yes.

7378. Q. Now, looking at the drawing, this is the starboard side here (indicating)?—A. Yes.

7379. Q. And according to the evidence, the starboard side of the *Storstad*, you know, struck the starboard side of the *Empress*?—A. Yes.

7380. Q. And it penetrates into the *Empress* as far as that (indicating)?—A. Yes.

7381. Q. But it is not a blow that way, but it is a blow in the other direction—now then, can you tell me, it struck the *Empress* there, and it injures its own stem back to the point that you have indicated. Now in doing that, what length did it open the side of the *Empress*?—A. It cut it open much less than that, because this is the final position of the *Empress* relative to the *Storstad*. Here is the other side over here, and the stem has penetrated at an angle of about 45 degrees, and the hole left is the distance from there around to here (indicating).

LORD MERSEY.—Well, that may be so.

A. It is rather important to get that right, my Lord, and I have a plan here which shows that.

7382. Q. Well show it to us?—A. Here is the original of that plan, my Lord, if your Lordship would prefer to look at it.

LORD MERSEY.—No, the blue print is very good.

Mr. HAIGHT.—My Lord, there are seven copies of that plan made so that every member of the Board could have one. That is a blue print made from a tracing.

By Chief Justice McLeod:

7383. Q. Which is the black dotted line there?

Mr. HAIGHT.—The black dotted line, my Lord, indicates the malformation.

Chief Justice MCLEOD.—Yes, I know, but on the blue prints how are we to distinguish them? There is supposed to be a red dotted line as well.—A. The red dotted line was copied off the original exactly, my Lord, we couldn't colour the prints.

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By Lord Mersey:

7384. Q. Now what is this red dotted line which appears white on the blue print?
—A. That is the deformation of the decks below the top deck of the *Storstad*.

By Chief Justice McLeod:

7385. Q. This is the *Storstad*?—A. Yes.

7386. Q. And you say that shows what—A. The limit of damage on the top deck, which was swept by the deck of the *Empress* that penetrated just under. In other words, the *Empress* deck shoved our forecastle head to one side.

7387. Q. And the distance to the bow is 14 feet 6 inches?—A. That is where the anchor came to rest, and from here to here is 14 feet 6 inches.

By Lord Mersey:

7388. Q. Now, after that entered the *Empress*, is it not possible that after entering the *Empress* that might have made a wound in the side of the *Empress* much longer than 14 feet 6 inches?—A. No, my Lord, it is not possible.

7389. Q. Now, supposing I take a knife and put it into a piece of butter, and I put it in that deep and put it in sideways, can't the knife come out and make a hole in the butter twice as long as the mark will show on the knife?—A. The other side of the knife gives you the margin of the other side of the hole, unless you twist the knife.

7390. Q. No, I don't twist it, I just run it along?—A. Then the other side of the knife gives you the other side of the hole you have made.

7391. Q. I daresay you are right, you know, but I can't quite see it. Now I take a piece of paper—there is the side of the *Empress* we will say, this piece of paper?—A. Yes, my Lord.

7392. Q. And I put a knife into the piece of paper. It enters there. Now my knife is damaged down there, but may not the piece of paper be damaged almost its whole length?—A. You are not going in fair, my Lord. You are not going in straight on end.

7393. Q. No, it didn't go in straight on end. It went in slanting.—A. But we have to think of the whole of the *Storstad* as a knife.

7394. Q. Yes, and can't the *Storstad* in running into the *Empress* run in that way, the way I have shown with the knife on the paper?—A. There was no glance in that way.

7395. Q. What do you mean by a glance?—A. You are driving that knife along the side of the *Empress*, but the *Storstad* is a knife, and had carried on in her course.

7396. Q. But is there any reason to suppose that she didn't move as I suggest?—A. Yes, every reason.

7397. Q. Well, what reason?—A. Marks on the side of the *Storstad*.

7398. Q. But it is possible, never mind the marks at present—it is possible that the blow may have ripped open a great deal more of the side of the *Empress* than is represented by that diagram?—A. Only if it was a glancing blow along the side.

7399. Q. But wasn't it a glancing blow?—A. No, my Lord, it was a direct blow.

7400. Q. What do you mean by a direct blow?—A. A blow of 45 degrees on the side of the *Empress*.

7401. Q. Well supposing it a blow of 60 degrees or 70 degrees, a blow that would become somewhat more of a slanting blow?—A. Well in that case you would have ripped along the side of the *Empress*.

7402. Q. I know, and what I would like to know is this. Isn't it possible that that kind of blow was delivered to the *Empress*?—A. Not on the evidence I have, my Lord.

7403. Q. But could it have happened?—A. Certainly, you could have had a ripping blow. It might have turned and ripped along the *Empress* side.

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7404. Q. Well that is what I am suggesting, but you say the evidence points to the fact that there was not such a blow?—A. Correct.

7405. Q. Now I am prepared to listen to your explanation with regard to that. I only wanted to know whether there was anything wrong with my idea?

Mr. HAIGHT.—As I understand it, my Lord, that represents really the part of the stem of the *Storstad* which penetrated into the plating of the *Emperess*, and the angle at which it penetrated—that distance there (indicating) would therefore be the hole through the side of the *Emperess*.

LORD MERSEY.—Unless it slid along.

Mr. HAIGHT.—Yes, my Lord, unless it slid along.

LORD MERSEY.—What I am putting to Mr. Reid is this:

7406. Q. Isn't it possible that it may have slid along?—A. Not in my opinion, my Lord.

7407. Q. You say the indications show that it did not?—A. That is correct, my Lord.

7408. Q. Now will you please explain to me again what are the indications that lead you to suppose the stem of the *Storstad* went in in the direction as drawn by Mr. Haight, and as shown by you on your plan, that is to that extent, and then came out again without moving—if you know what I mean by without moving, simply backed out—that it drove in and then drew back again.—A. I don't consider it did that, my Lord, it turned.

7409. Q. But it didn't advance?—A. No, it didn't advance.

7410. Q. It didn't go towards the rear, but it went in, and, if I may use the expression, wriggled out again?—A. Yes, that is correct.

7411. Q. Will you tell me what leads you to that conclusion?—A. On the side here, at the point which I find for the contact of the *Emperess*, on the stem, on the starboard side you have very prominent indications of the decks of the *Emperess*. The *Emperess* decks cut into us, and we cut in between them. They were very strong things with very heavy beams and did not give way as readily as the plating, and scored our side. First of all, the *Emperess* shelter deck, passing over our forecastle, swept it right back to the black line I have shown on my plan. The upper deck was almost opposite to our upper deck, and ran the anchor back. The main deck scored deeply in her. The lower deck made a slight trace, and the orlop deck left an impression which is above the scarf of the stem which we discussed before.

By Mr. Haight:

7412. Q. Do the indications show that?—A. Yes, but I will come to them a little later.

On the other side, my Lord, the decks acted somewhat similarly. They show also on the port side of the *Storstad*'s bow, and the marks they made in the plating point, as I explained, to the fact that the plating of the *Emperess* rolled over, as I explained it before. The plating gave way, but the decks did not give way; they held as far as they could, and we crushed the hull and split the plating—that is my plating was split somewhat and the plating of the *Emperess* was rolled up in the bay on the port bow of the *Storstad*, as I have explained.

7412½. Q. Did you notice at a point where one of these decks comes a very prominent depression?—A. Yes, I noticed a very prominent depression, which I was certain, if I could find out the meaning of, that is what had caused it, that I could know pretty accurately where this blow had taken place. I found later, by looking at the plans of the *Emperess*, that this big depression at the level of the main deck was caused by a pad of iron and wood, which projects under one of the large gangways or coaling ports, and projects beyond the side of the *Emperess*, I suppose about six or nine inches, but I haven't that figure exactly. Then about five feet above that, I found an impression

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of a side-light very prominently stamped in under the port anchor. That light is of a smaller size, which indicates it was a main deck-light, and I know that of course anyway, by the position of the decks.

7413. Q. You mean on the port side of the *Storstad's* bow, you saw this mark?—A. Yes, on the port side. The *Storstad*, being driven aft, was crushed against the *Empress*, and this pad and the side-light were crushed across the ship into the centre of the ship, pointing to some very great force having squeezed the anchor through its hawse-pipe. It was also broken, as on the other side, and left the anchor sticking practically in the centre of the ship, which is not a very great diversion, because she is narrow here.

That points to this, my Lord, that the ship had gone in, crushed its way into the *Empress*, and brought up all standing, because the features I have referred to are on the far side of the point which I chose for my hole in the *Empress*. That was an arbitrary decision, that I chose, and I had a very small plan of the *Empress*, and didn't know that the bulkheads were stepped, that is, I didn't know that this bulkhead No. 5 was stepped at the main deck, and I thought I had found that bulkhead with the face of the stem.

It was only two days ago I found that the bulkhead was 15 feet further forward. That caused me to overhaul all my theory, and I found that I was right with that position, and on one of the figures I discovered the mark of that bulkhead. That is only a trace upon our stem, and it is a very faint one, of No. 5 bulkhead. It doesn't make a depression in our side of more than an inch or an inch and a half. In other words, we didn't hit that bulkhead except when the energy of this blow was being dissipated. It was partly spent in generating heat, partly in crushing in the *Empress*, partly in the *Empress* crushing us in, and partly in careening both vessels: I believe that blow pushed the *Empress* over bodily a little, and pushed the *Storstad* a little the opposite way, and that brought our lower portion against the side of the *Empress*, and we just got a trace of that No. 5 bulkhead, fifteen feet away from the point that I had considered was the point of contact, which is practically amidships, and which corresponds, I might say, with the room of which we found the tablet on the bow.

The nature of this damage, and the size of the hole caused by it, is best determined by looking at the damage done to the fore-castle head, because the shelter deck of the *Empress* nipped off our stem, and swept this deck. The starboard side was crushed in and heaved up; the port side of the deck did not sustain any serious damage, kept to its shape, and the vessel is so heavily plated to carry the windlass and various other equipment there, that if there had been any further penetration the damage would have extended back to the windlass.

I have drawn a line on that plan, showing the limit of the damage, but not to indicate the extent of the penetration, only the extent of the damage on the fore-castle head.

The starboard anchor, I believe, shows the conclusion of the blow on this side. This point (indicating) shows the conclusion of the blow on the port side.

By Lord Mersey:

7414. Q. Do you mean the conclusion of the blow or the conclusion of the damage, because I should have thought the blow hit your ship upon its starboard side, and I don't quite see how, having a slanting blow, you can have a blow on both sides?—A. This is the other side of the hole in the *Empress*, my Lord.

7415. Q. But you are at present showing the *Storstad*?—A. Yes, but this is where the hole in the *Empress* forced its marks on the bow of the *Storstad*. One side of the hole is here.

7416. Q. But the way you put it is that the *Empress* caused the damage to the *Storstad*—isn't it better to say that the damage was done by the *Storstad* to herself by driving herself into the *Empress*?—A. It is a mutual affair, my Lord.

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7417. Q. Well, you rather put it as if it was the *Empress* that was destroying the *Storstad*, and isn't it the right way to put it that it was the *Storstad* destroying the *Empress*—of course, that is a mere thought?—A. I merely wished to illustrate the extent of the penetration along the line of the *Empress*' side.

7418. Q. Yes, we were talking about the blow on the port side of the *Storstad*?—A. Yes.

7419. Q. Well, now, I know that the port side of the *Storstad* is damaged, but I should have thought the blow came first on the *Storstad*'s starboard side?—A. That is correct, my Lord.

7420. Q. And then I don't know what other blow ever came. Of course I can understand that the port side was damaged. If I am wrong, don't hesitate to contradict me, for I am just trying to find out?—A. No, you are quite right, your Lordship. I am merely trying to show the cause of this result. I wish to show on the starboard side where the anchor came to rest, and that would be the limit of the effect of the blow on that side, and that would be on the forward side of the hole in the *Empress*. And here on the port side I am trying to show the limit on the *Storstad* of the aft side of the hole.

7421. Q. And you say that is not so far back?—A. No, your Lordship, not so far back. All these indications, your Lordship, bring me to the conclusion that I had given too large an angle at 45 degrees, that the indications do not conform to that angle. I believe that 40 for the angle of contact is right, or in that neighbourhood, and to pull her farther down the angle of contact is sensibly less than that, about thirty degrees along the ship's side, and I attribute that fact to this careening of the *Storstad*.

7422. Q. Would you take a piece of paper and mark down the two vessels? We have some little models here, and if you would put the two vessels in the position in which you now believe they were at the first moment of impact, I would be very glad.—A. I cannot do it with these two little ships, my Lord, because they do not show what I want to bring out. I would rather try and draw it, because these are too small.

7423. Q. Now, will you show me first what you really believe to be the relative positions of these two ships at the moment of the contact?

(Witness drew diagram on sheet of paper indicating angle.)

LORD MERSEY.—Look at this, Mr. Haight. Is that your information?

MR. HAIGHT.—Yes, my Lord.

LORD MERSEY.—Look at this, Mr. Aspinall.

MR. ASPINALL.—My Lord, may that be filed?

LORD MERSEY.—Yes.

(Diagram filed and marked Exhibit No. 20.)

LORD MERSEY.—I am going to ask you to make us another. Give Mr. Reid the pad again. Now, Mr. Reid, as I understand, the stem of the *Storstad*, driven in at this angle, remained in the side of the *Empress* without going along the side of the *Empress* either towards the stern or towards the stem, but somehow or other—you call it wriggling—it got out. Can you show us on that other piece of paper the angle at which these two ships were when they parted?—A. (Witness). That is a very difficult thing to do at all accurately, my Lord.

7424. Q. Do the best you can. I want your idea of what was happening to these ships during the short space of time the stem of the *Storstad* was inside the hull of the *Empress*.—A. May I explain that with the two vessels together, the *Storstad* in the *Empress*, when the *Storstad* comes to rest it has almost hooked itself into this gap. The stem has turned over and it has gone in behind the rolled over plating and up the side of the gap and there is a hook action there. It is small on a ship of that size but it exists. Just when, as the *Storstad* swung away from the *Empress* and

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widened the angle between them, that hook action let go so as to allow the *Storstad* to get away is a very difficult thing to determine.

7425. Q. Put the *Empress* in the same position that you have put her on the other piece of paper and then imagine what is the alteration of her position. Now put the *Storstad* in the position in which you believe she was when she unhooked herself from the vitals of the *Empress*?—A. I imagine that if we allow a swing of about something like 100 degrees from the original position to the position at which she departed we are right.

7426. Q. Well then put it in and show us.—A. This is the original position and this is the position at which she departed. It is very difficult to get the exact point where she left (witness indicated on piece of paper).

7427. Q. Where will you put the stem of the *Empress*?—A. Here; this is the initial position of the stem of the *Empress*.

7428. Q. No, the *Empress*.—A. Oh, the *Empress*; this is the *Empress* here (indicating).

7429. Q. How have you got her stem?—A. Here. Here is the original position of the *Storstad* at 45 degrees of the centre line of the *Empress* and here is the swing.

7430. Q. The *Storstad* struck the *Empress* on the starboard side.—A. Well, we will have to put the stem here and the stern there.

7431. Q. Make the drawing again. (Witness made another drawing) and submitted it to Lord Mersey.)—A. An angle of 3 in about 100 degrees.

7432. Q. Then you think when she got clear there was nothing to prevent the *Storstad* backing straight away into the sea?—A. There would still be a tendency to continue her swing.

7433. Q. She would then swing out entirely. This picture shows us the stem of the *Storstad* still inside. What I really wanted was the position of the two ships when the *Storstad* first got quite clear of the *Empress*.—A. That was not my understanding of your Lordship's wish.

7434. Q. I want, first, the position at the moment of impact and then I want the position at the time they parted: Here you show the *Storstad* still with her nose inside the *Empress*.—A. I am giving you that point at which she was free in a way.

7435. Q. There was the hooking operation inside of the *Empress*?—A. Correct.

7436. Q. And then there was nothing to prevent the *Storstad* from swinging right out into the sea.—A. That is correct.

7437. Q. And clear of the *Empress*—that is the meaning of it. Let that be marked. (Drawing filed and marked exhibit No. 21.)—A. I have dealt with the extent of this penetration.

7438. Q. I think very clearly.—A. I wish now to say that I have had a little opportunity to measure that penetration from the side of the *Empress* square inwards and that to the best of my belief it does not exceed 8 to 10 feet from the shell plating of the *Empress* square inwards. I have got an angle of 40 degrees for the initial blow upon the *Empress*' side measured—

7439. Q. You mean, of course, measuring straight inwards from the shell of the *Empress* at right angles?—A. That is correct.

7440. Q. You say that any damage would not exceed 8 to 10 feet measuring at right angles from the shell of the *Empress*?—A. That is my belief. I find an angle of 40 degrees for the initial blow measured between the centre line of the vertical plane of this ship and the vertical line of the centre plane of the *Empress*. Lower down I find contacts at a lesser angle—as low as 30 degrees—measured in the same way, which I attribute to the fact that as the boat hit so high up as she crashed into the *Empress* she still continued on her course but careened to a slight extent and this lesser angle would bring this side of the *Storstad* into contact with the *Empress*. Otherwise, she could not have reached No. 5 bulkhead at all; she could not have touched it.

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7441. Q. As you, in your opinion, believe she did?—A. We did touch it, I think.

7441½. Q. No. 5 bulkhead is between the two boiler spaces?—A. That is correct.

7442. Q. And if you injured it even to the comparatively small extent that you suppose, it would have had the effect of destroying that bulkhead as a watertight bulkhead?—A. I do not like the word 'destroying.'

7443. Q. What I mean to say is that it would no longer act as a watertight bulkhead?—A. It might be deformed by our contact, but it was so light that I do not see how it could have injured its watertight character.

7444. Q. In your opinion, was there no breach between the two boiler compartments?—A. I do not see how there could have been that breach with the contact that we had with the bulkhead.

7445. Q. You know you have told me that the indication was very slight, but I assume that though it was slight, nevertheless it destroyed that bulkhead as a watertight bulkhead?—A. No, I do not think so.

7446. Q. Is your view that only one compartment of the *Empress* was at first flooded?—A. The water entered one compartment at first only.

7447. Q. And never flooded through any opening made by the *Storstad* between the two boiler spaces?—A. That is my belief.

7448. Q. Assuming that she was built so that she would float with any two compartments full of water, if you are right and there was only one compartment full of water—you agree that there would be only one?—A. There would be one.

7449. Q. There would be only one full of water and the remainder must have come in through the portholes that were left open?—A. —

By Sir Adolphe Reuthier:

7450. Q. Had the *Empress* inflicted some damage on the *Storstad*?—A. Yes, my Lord. You see it on the large photographs. It might be described as a vertical mark.

By Lord Mersey:

7451. Q. That is your suggestion?—A. Yes, your Lordship.

LORD MERSEY.—Speaking for myself, I think I understand it. Do you want to ask any further questions, Mr. Haight?

By Mr. Haight:

7452. Q. Will you be good enough now, if the court will permit, to refer to the various photographs, not as mathematically accurate, but as showing approximately the marks on the decks and the other traces which you have described more accurately. Run through each exhibit in turn, Mr. Reid, beginning with 'F-8.'—A. I would rather go backwards and begin with Exhibit '7-F.'

7453. Q. The last photograph?—A. Yes. This (referring to 7-F) is the starboard bow of the *Storstad*. You see the broken hawsepipe snapped through the middle of its mouth. That was done by this anchor.

By Lord Mersey:

7454. Q. I do not quite see in this photograph the hawsepipe?—A. This is a fragment of the mouth of the hawsepipe and the anchor was hanging against that and smashed it. Going down one strake of plating from the hawsepipe you find a horizontal score very prominent from the bent, in side of the bow going aft of the anchor.

7455. Q. Where?—A. At this point. Just under the strake of the plating you find a horizontal score. This is the main deck of the *Empress*. The other decks are shown very faintly at their corresponding distances from that deck and there is the mark of the bulkhead at this point here.

7456. Q. What is it on this photograph?—A. It is that vertical line.

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7457. Q. Is there anything in the appearance of this vertical line on the starboard side of the *Storstad* which would convey to you an idea of the extent and character of the damage done to No. 5 bulkhead?—A. Yes.

7458. Q. What is it?—A. It is the fact that the trace of the contact is faint. The end of the bulkhead is an exceedingly strong thing, it is supported by very heavy angle bars and violent contact would have marked our vessel much more prominently—equally prominently with the deck—and there is only a trace of it.

7459. Q. Did you ever see such a thing before?—A. I never examined such a proposition before.

7460. Q. I understand you to say: I saw a mark on the side of the ship which is faint and therefore it was made, in my opinion, by a bulkhead, but I say that the blow upon the bulkhead did not destroy its character as a water-tight bulkhead. Is that what you say?—A. That is my belief.

7461. Q. I suppose it does not require any engineer to verify that?—A. Anybody looking at this photograph would say that this is a very faint trace of such a powerful piece of material to be left upon the *Storstad*.

By Chief Justice McLeod:

7462. Q. You come to that conclusion because you do not see any sufficient evidence on the stem of the *Storstad* that it broke that bulkhead?—A. I do not.

By Lord Mersey:

7463. Q. You say that it struck the bulkhead but you believe it did not break it?—A. The side of the *Storstad* struck the bulkhead but did not break it. Exhibit "E" is simply the same photograph from a slightly different standpoint.

By Mr. Haight:

7464. Q. Please show the trace of the deck on the *Empress*. It is a clearer print than the others.

(Photograph Exhibit 'E' shown to the Court).

By Lord Mersey:

7465. Q. Where is the perpendicular line of No. 5 bulkhead?—A. It is not shown on that photograph.

7466. Q. Why not?—A. Because the photograph has been taken from a different point and it does not appear.

7467. Q. Does not the photograph include the part on which the perpendicular line was visible?—A. No, it is not in that photograph.

7468. Q. Are these photographs taken on the same scale?—A. They are fairly on the same scale but I found it quite impossible to scale them except in the neighborhood of the stem where the *Storstad's* actual draught marks are still shown, but one can get an approximation of distances.

7469. Q. You cannot tell us from these photographs how far the vertical line that you say marks the line of the impact with No. 5 bulkhead, was from the stem?—A. I can get an approximation to it.

7470. Q. Can you tell from the first photograph?—A. About 16 feet, not from the face of the stem but from the bend.

7471. Q. What bend?—A. This bend here; this is the edge of the bend that the stem took. I am not measuring from the face of the stem because that is around the corner.

7472. Q. How far is it towards the stern from the point you can see on the photograph?—A. About 16 feet.

7473. Q. Take photograph 'E' and tell me to what extent the photograph shows the starboard side of the *Storstad* from the stem towards the stern?—A. It is about three-quarters of that.

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7474. Q. What is the next?—A. Exhibit 'D'. That indicates the contact of these decks but I wish particularly to refer to this indication of the striking of this pad which is shown on the port bow just below the second strake of plating going down from the deck.

7475. Q. Then let us come to 'C'?—A. 'C' only shows this peculiar hooking of the bow. It shows the port side with the bay which I referred to.

7476. Q. I should think that this is a photograph that might be very deceptive.—A. Yes, that photograph is very deceptive; it is quite useless for practical purposes.

7477. Q. Now 'B'.—A. 'B' shows the nature of the displacement of the port anchor, the driving of it into the centre of the vessel and also the traces of these various decks. They are quite faint.

7478. Q. What is "A"?—A. "A" shows practically the same view but indicates rather more clearly the fact that our upper deck space further back was not very much deformed nor very far back.

7479. Q. I see some boards hanging from the stem of the *Storstad*. Are they attempting to repair the stem?—A. No, these boards were put up so that we could make measurements.

7480. Q. They were put up for your convenience?—A. Yes.

By Mr. Haight:

7481. Q. Do any of the photographs show the imprint of the dead light you spoke of?—A. They are very faint. The dead light is seen but it is extremely faint.

By Lord Mersey:

7482. Q. Where is that?—A. On the port side. You get it on the first photograph. May I point it out?

7483. Q. Yes, do.—A. That is it in there; it is rather hidden by the shadow line. LORD MERSEY.—To my mind, these photographs are no good whatever.

MR. HAIGHT.—It is very hard to get the ship into court and so some photographs are better than nothing.

LORD MERSEY.—In my opinion Mr. Reid's plan is of far more value than the photographs.

By Mr. Haight:

7485. Q. Will you please sum up, Mr. Reid, your final conclusions as to the angle of initial contact?—A. 40 degrees.

7486. Q. Second, as to the extent of penetration inboard?—A. 8 feet to 10 feet from the side of the *Empress* measured at right angles.

7487. Q. Third, as to the probable movement of the two vessels after they came in contact and before they separated?—A. Relative to the *Empress*, the *Storstad* appears to have swung to about 100 degrees and then cleared.

7488. Q. Are you able to form a judgment as to what caused the *Storstad* to swing around so much?—A. It is not easy to form an absolute judgment, but I consider that the *Empress* must have had a motion through the water when struck.

By Lord Mersey:

7489. Q. Are you able to form any opinion as to the rapidity of the movement?—A. Of the *Empress*?

7490. Q. Yes.—A. No, I do not care to make any estimate particularly.

By Mr. Haight:

7491. Q. Have you, Mr. Reid, examined the plans of the *Empress* particularly in reference to the shape of her stern?—A. Certain of the plans which we obtained do show the form of the stern, but they do not enable me to make any conclusions or any estimate of an exact nature.

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7492. Q. Do the plans which you have examined give you an idea that her stern is, or is not, moulded as the stern of a vessel of that character is ordinarily built to-day or was built when she was originally constructed?—A. I consider that the stern at certain draughts is much fuller than usual.

7493. Q. Mr. Hillhouse yesterday admitted that the lines were fuller but could not give any further definite statement as to how much fuller. Can you give us a general idea as to how much fuller they are?—A. No, I cannot give you any figures, which would be the only way to indicate the extent of this increased fullness.

7494. Q. As I understand, the increased fullness beginning with the beam of the ship towards the stern at certain draughts is greater than you ordinarily find?—A. That is correct.

7495. Q. What effect does the fullness of the hull of the vessel at that point have upon her rudder?—A. It is very apt to cause a drag which would interfere with the efficiency of the rudder.

7496. Q. What do you mean by a drag?—A. The water on the sides does not flow naturally to the rudder.

7497. Q. Naturally it should flow how?—A. So as not to cause any eddying or wake—eddies in which the rudder acts.

7498. Q. And being full how does it flow?—A. I cannot tell you how the water flows.

7499. Q. You mean that fullness tends to cause eddies?—A. Perfectly.

7500. Q. From your knowledge of the designing and building of ships, and the study and examination of such plans as you have had, state in your judgment what effect the fullness of the *Empress* would be likely to have upon her steering. Are you able to say whether with lines such as that she would or would not be a well steering vessel?—A. I simply say that she would not be a good steering vessel by the fact that it is a matter of common knowledge that she did not steer well.

By Lord Mersey:

7501. Q. What do you say?—A. It comes to one's knowledge—one familiar with these ships—that they were defective in their steering qualities.

7502. Q. Will you tell me the facts upon which you rely when you state that as your conclusion?—A. I have looked repeatedly at the model of this vessel and I have noticed this extreme fullness which is very unusual in a boat of that height and speed. I judged that there might be this difficulty in steering her from the fact that the water would not flow evenly and naturally towards the rudder. One also realizes that these boats have been on the dry dock and their rudders changed.

7503. Q. When did you get to know that?—A. I had put these two things together and I had judged that if this design was efficient in steering they would not have taken steps to make the change.

7504. Q. These are the only facts?—A. These are the only facts.

7505. Q. I had rather judged that you were relying on some reports which you had seen to the effect that this was not a good steering vessel. You base your opinion on this admitted fullness at the stern?—A. Correct.

7506. Q. Which means as I understand the breadth of the stern. Then you say further that at one time that had to be corrected by an increase of the area of the rudder. I do not know, but I ask you would that improve her steering qualities?—A. Yes.

7507. Q. Therefore, she would be a better steering ship at the time she sank than she was when she first put out to sea?—A. I expect that was so.

7508. Q. But nevertheless, you say, judging from the plans, that she was not a good steering ship?—A. That is correct. I find the rudder very small.

7509. Q. Do you think that the rudder was not sufficiently large after the alteration?—A. I have only had access to the plans which were taken from the working

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drawings of the ship and I expect that these plans do not show the addition to the rudder.

7510. Q. Of course they do not because the addition to the rudder had not been made when those plans were drawn.—A. It is the only plan I have had access to.

7511. Q. Therefore, you do not know what the additional area of the rudder is?—I have seen the figures which Mr. Hillhouse has given us.

7512. Q. Is it, in your opinion, not sufficient?—A. I think the area is still small.

7513. Q. Did you ever know Mr. Elgar?—A. I did.

7514. Q. Was he not a very highly skilled man?—A. The very highest in that line.

7515. Q. A person whose judgment on a matter of this kind would be entitled to great weight?—A. Absolutely.

By Mr. Haight:

7516. Q. Was the moulding of the stern of the *Empress* a departure when she was originally designed?—A. It was a departure.

7517. Q. According to your knowledge of ship-building and designing have the ideas which were first tried in the designing of the *Empress* been subsequently made general use of?—A. No, the *Empresses* had rather peculiar sterns which were not followed later although the same effects have been got in.

7518. Q. Having obtained the same effects, just what has the difference been in the moulding?—A. That would take quite a long time to explain.

7519. Q. Roughly. You say the same effects have been obtained. I want to know how much the present moulding that gives you the same effects differs from the *Empress*?—A. Simply they have carried all the stern lines of the ship much farther.

By Lord Mersey:

7520. Q. That is what I understood you to say already?—A. Not exactly.

7521. Q. You have not said it in the same words but in effect already.—A. No. This is relating to the nature of the arrangement of the sterns of the newer ships which has enabled us to get the same effects that they got in the *Empress*.

7522. Q. What is the effect? Is the effect to increase the carrying capacity of the ship?—A. This was not the intention primarily.

7523. Q. What was the intention?—A. The intention was to get in that complicated bossing arrangement in connection with the steering gear. They desired to get space for it and therefore they carried the lines out in order to get that space.

7524. Q. I do not understand that. The object of this fullness is to find accommodation for the steering gear? Now, you say this telemotor—is it not?—A. We are coming to that, I should say.

7525. Q. I dare say we shall; but it was the telemotor.—A. No, it was the main steam-steering gear.

7526. Q. You say that they could not manage to accommodate this steam-steering gear in the later built ships without having this extra fullness?—A. They have this extra fullness but they carry the fullness up to the deck and that is what is called the cruiser type of steamer.

7527. Q. You have this extra fullness on the cruiser type of ship?—A. Yes.

7528. Q. But you think it does not work in in exactly the same position?—A. (No answer.)

7529. Q. Even to the present day?—A. Especially at the present day.

7530. Q. What was there wrong about this fullness that seems to exist in the cruisers still and which exists still in the *Empress*?—A. They have greatly increased the area of the rudders in the cruiser type.

7531. Q. Then you do not object to the fullness, but you think that if there is fullness there ought to be a much greater area of rudder?—A. That is correct.

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7532. Q. And if there is a much greater area of rudder this fullness does not matter?—A. It neutralizes the thing, sir.

7533. Q. If there is a sufficient area of rudder her steering will be all right and the only complaint I understand you have against the *Empress* is that her increased area of rudder was not sufficient?—A. That is about so.

7534. Q. That is really so; that is your only complaint?—A. That is correct.

7535. Q. Do you know how much they did increase the area of the rudder?—A. I saw the figures this morning but I did not commit them to memory. They were handed to us by Mr. Hillhouse.

7536. Q. Can you tell us what was the area of the rudder?—A. No, I cannot give you absolute information on the subject.

7537. Q. Then why did you say the area of this rudder that you do not carry in your head and which you are not prepared?—A. You asked for the two areas. I have got one all right but I have not got the addition in my mind.

7538. Q. If you have not got the figures in your mind why should you express the opinion that it is not sufficient?—A. Because we have the percentages of the model area.

7539. Q. Have you the percentage in your mind?—A. I haven't it in my mind.

7540. Q. If you have not got the percentages of the areas in your mind how can you express an opinion?—A. Because I made a study of it this morning before I came here.

7541. Q. Where is the study; let us see it.—A. It is on a piece of paper.

7542. Q. Well, let us see the piece of paper.—A.—

7543. Q. Mr. HAIGHT.—The original memorandum which Mr. Sillhouse was good enough to hand me this morning I left on my table and I have misplaced it. I asked Mr. Hillhouse to write out exactly the same figures on another scrap log. These are the figures (Mr. Haight handed witness a piece of paper).

A. (Witness).—Square feet of old rudder 185; new rudder 227; percentage—that is the percentage of the immersed vertical plane of the ship to the water line—1.25 per cent; new rudder 1.53 per cent.

By Lord Mersey:

7544. Q. That is $1\frac{1}{2}$ per cent?—A. Practically.

7545. Q. Well?—A. I should expect larger percentages.

7546. Q. You think that percentage is not large enough?—A. That is my opinion.

7547. Q. Are there any technical works that show what the percentage ought to be?—A. There are statements in one or two technical publications on this subject.

7548. Q. Can you tell me what they are?—A. I think that Sir William White's work refers to it and there is also McCarrow's work.

7549. Q. Take Sir William White; what does he say?—A. I would have to get the book to give it to you.

7550. Q. Do you not remember it?—A. No.

7551. Q. You would not pass an examination?—A. It is some time since I did, your Lordship.

By Mr. Haight:

7552. Q. What, in your judgment, should approximately be the percentage of rudder to the immersed plane of a vessel like the *Empress* considering the formation of her stern?—A. Not less than two per cent.

By Lord Mersey:

7553. Q. That is a very serious difference. It ought to have been one-third larger than it was?—A. That is correct.

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7554. Q. You think Mr. Elgar made a mistake, and a worse mistake, because Mr. Elgar designed it before the alteration was made?—A. That is correct.

7555. Q. I suppose that you claim that it is apparent that there was a mistake when they changed it?—A. That is what I believe.

By Mr. Haight:

7556. Q. Do you know what is the average percentage of rudder area of the cruiser type which is more or less similar in shape at the stern?—A. When I referred to cruiser sterns I did not refer to the sterns of cruisers, but I referred to the type called by that name.

7557. Q. What is the average percentage on the cruiser type of vessel?—A. On the latest vessels we have been getting 2·4 per cent.

7558. Q. Mr. Reid, will you please state, from your knowledge of the telemotor system, what is meant, as far as the efficiency of the system is concerned, by the loss of fluid in the pipes of the system?—A. Of leakage?

7559. Q. What would be the effect on the efficiency of the system of leakage?—A. Intermittent working; I should expect intermittent working of the steering valve.

7560. Q. The quartermaster of the *Empress*, on cross-examination, said that sometimes when he put his wheel over on the *Empress* her head would not swing, then, after putting his wheel back again to amidships and putting it over the same way a second time, she would swing; would such behaviour indicate anything to you as to the condition of the system?—A. A discontinuity of the fluid in the connecting pipes, I should imagine.

7561. Q. What, from your knowledge of the system, would be the result of any possible obstruction in the pipes?—A. A total breakdown.

7562. Q. LORD MERSEY.—Mr. Aspinall, do you think you could finish with Mr. Reid in a quarter of an hour?

MR. ASPINALL.—I might have if it had not been that Mr. Reid has made these suggestions about our rudders and matters of that sort.

LORD MERSEY.—I am not going to ask you to finish in a quarter of an hour.

7563. Q. I have been asked to put this question to you, Mr. Reid: Would the stern of the *Storstad* swing and describe a 100 degree angle if her screw was going full speed astern?—A. No, it would not.

7564. Q. Would it tend in that direction?—A. Yes, absolutely.

By Mr. Aspinall:

7565. Q. Mr. Reid, I gathered from what you have told us that you have been for some years practising on this side of the Atlantic?—A. Both sides.

7566. Q. Before?—A. I am practising still on both sides.

7567. Q. For how many years have you been practising on this side?—A. I have been practising ten years on this side.

7568. Q. What is the biggest ship you have designed in this practice?—A. I have not designed big ships on this side.

7569. Q. I asked you what was the biggest. You have not designed big ships. Is your practice in tug boats?—A. Not exclusively.

7570. Q. A good deal in tug boats?—A. Quite a good deal.

7571. Q. In what other class of craft have you been engaged?—A. Large dredges and cargo vessels for the lakes.

7572. Q. I want you to tell me which is the largest cargo vessel for the lakes that you have been interested in.—A. I have constructed up to 260 feet long on the lakes; that is the biggest.

7573. Q. That is the class of work that you have been engaged in?—A. Partly.

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7574. Q. Do you ever give evidence in the Courts and act the part of what we sometimes call in England the professional witness—the expert witness?—A. I do not; not for twelve years.

7575. Q. You used to do so?—A. Occasionally.

7576. Q. You used to do it in England?—I do not think I have had the pleasure of meeting you in the Admiralty Court.—A. I never had that pleasure but I have been before his Lordship.

7577. Q. Not twelve years ago?—A. —

By Lord Mersey:

7578. Q. Were you a witness before me?—A. Yes, your Lordship.

By Mr. Aspinall:

7579. Q. Not in the Admiralty Court?—A. On a salvage proposition.

7580. Q. I shall not pursue that because I know how long ago it was that we lost Lord Mersey in the Admiralty Court. However, that is another matter. Does your experience lead you to this conclusion that unless you have the two ships left so that you can see the damage done to them any conclusions which you can draw from one ship alone are very unreliable?—A. Will you kindly repeat that question?

7581. Q. Assuming that two ships have been in collision, that one is lost, that only one ship is left, and that you only have an opportunity of seeing the damage suffered by that ship, does not that give you very limited data to enable you to arrive at any certain conclusions?—A. Not in this case.

7582. Q. This is a peculiar case?—A. A very peculiar case.

7583. Q. But my proposition, I repeat, is an accurate one; you want to see the damage done to both to enable you to draw any safe conclusion?—A. It helps very materially.

7584. Q. This, for some reason, you say, is a very peculiar case?—A. That is correct.

7585. Q. And in this case I suppose your proposition is that you are expected to draw safe conclusions?—A. Within the limits of accuracy I would look for.

7586. Q. Within what?—A. That I would look for; that I would wish for.

7587. Q. We want the whole of it; we do not want you to limit it in any way. I do not quite appreciate what you mean by the last answer: Within the limits of accuracy I would look for.—A. You cannot make measurements as to inches and come to conclusions as to what has actually happened, but you can get a general idea.

7588. Q. Your meaning is that you are giving a general idea?—A. That is correct.

7589. Q. I want to deal with this particular viewpoint of giving a general idea. I want to be sure what your views are in regard to the *Storstad*. You spoke of the *Storstad* crushing into the *Empress*. That was one phrase and when his Lordship spoke of a wriggling motion you used this phrase “when the *Storstad* comes to rest.” Is it your view that the *Storstad* drove herself into the side of the *Empress*?—A. It is.

7590. Q. Do you appreciate my question?—A. I think I get the drift.

7591. Q. I want your view; I want more than the drift of it. It is a plain question.—A. It is a plain question. I have given you the answer.

LORD MERSEY.—I understand Mr. Aspinall's question perhaps in a different way from what you understand it. I may be understanding Mr. Aspinall's question in a different sense from that which you understand it and I want you to be very careful about your answer. Mr. Aspinall, will you put that question again?

By Mr. Aspinall:

7593. Q. Was it your opinion that the *Storstad* drove herself into the side of the *Empress*?—A. She did.

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7594. Q. I pass away from the *Storstad* and I am now going to the *Empress*.—A. May I make an explanation for a moment, your Lordship?

LORD MERSEY.—Certainly.

WITNESS.—I stated that this contact was a mutual affair, that the *Storstad* drove herself into the *Empress* and that the *Empress* drove herself into the *Storstad*.

By Lord Mersey:

7595. Q. No she did not. The *Empress* might have made a hole in the *Storstad*, but she did not drive herself in?—A. She drove her decks into our side.

7596. Q. She drove her decks against your side—A. And inwards.

7597. Q. Do you mean to say that the decks of the *Empress* penetrated the *Storstad*?—A. They gripped hold and pushed in.

7598. Q. They gripped hold of the *Storstad* but they did not drive themselves in?—A. They cut in.

7599. Q. Now I understand you to qualify a little what you said just now.—A. That is correct.

7600. Q. Mr. Aspinall asked you if the *Storstad* drove herself into the *Empress*?—A. That is correct.

7601. Q. You say: Yes she did?—A. That is correct.

7602. Q. Now I understand you to say that the *Empress* contributed to that by going herself up against the stem of the *Storstad*?—A. Up against the starboard bow of the *Storstad*.

7603. Q. But your answer, as I understand, involves the idea that the *Storstad* was moving in the direction of the the side of the *Empress* at the time of contact?—A. That is correct.

By Chief Justice McLeod:

7604. Q. Do I understand you to mean that both vessels were moving?—A. That is my idea.

By Mr. Aspinall:

7605. Q. What he said in regard to the *Empress* was that it is impossible for him to form any opinion as to the speed at which the *Empress* was travelling?—A. (Witness) I do not care to make any estimate on that point.

7606. Q. It is impossible to do that?—A. That is correct.

7607. Q. I want to pass away from the *Storstad* and I want to hear what are your reasons for coming to the conclusion that the *Empress* had headway upon her?—A.—

LORD MERSEY.—We will rise now.

At 1.30 the Commission took recess.

The Commission resumed at 2.30 p.m.

LORD MERSEY.—We shall, I hope, finish the evidence to-day. To-morrow, Friday, we shall hear Mr. Aspinall; I suppose, Mr. Aspinall, you will not occupy more than a couple of hours or thereabouts?

MR. ASPINALL.—It may be a little more; the maximum would be three hours, my Lord.

LORD MERSEY.—Then we can hear Mr. Haight, and then I shall ask Mr. Gibsons if he desires to say anything. After that I shall ask you, Mr. Newcombe, to sum up.

MR. NEWCOMBE.—I may say, my Lord, that these dispositions are entirely satisfactory to me.

LORD MERSEY.—I understand that you desire to sail for Europe, and I am very desirous that the arrangement should be such as to suit your convenience.

MR. NEWCOMBE.—I appreciate that, my Lord.

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LORD MERSEY.—After the speeches are made, it may be that some of us will go to Montreal to see the *Storstad*. We shall not require the assistance of counsel for that purpose.

MR. NEWCOMBE.—In case I should be leaving before the report is prepared, if any further assistance or information from counsel is required, Mr. Belleau, who is with me, and who has followed the proceedings very carefully, will be available.

LORD MERSEY.—Mr. Belleau, if Mr. Newcombe finds it impossible to remain to sum up the case, perhaps you would be prepared to do it for him. If so, we should be very glad to hear you.

MR. BELLEAU.—Yes, my Lord.

MR. HAIGHT.—Are the arguments to start the first thing to-morrow morning if we finish to-day?

LORD MERSEY.—Yes, I shall begin with Mr. Aspinall.

MR. HAIGHT.—Would it be too much to ask that we might have a little more time to prepare for the argument?

LORD MERSEY.—I am anxious that Mr. Newcombe, who has other engagements as I understand, should not be unduly detained. I am also anxious that you should have plenty of time to prepare for the argument. Could you give any opinion as to how long your address will be?

MR. HAIGHT.—I think, my Lord, that if I could have a little more time for the preparation of our argument, I ought not to take up more than two hours; I should say that two and a half hours would be the limit.

LORD MERSEY.—If I felt satisfied about that, then I would not sit to-morrow morning, and, as Mr. Aspinall would not be called upon to address us until the afternoon, you would have considerable time to look around and get your argument into shape.

MR. HAIGHT.—I came rather late into the case and it has involved practically steady night work. I should like to avoid working all night to-night if I might have an opportunity of avoiding it.

LORD MERSEY.—I think that is very reasonable. Then we may not sit to-morrow morning, Mr. Aspinall.

Chief Justice MCLEOD.—That may necessitate our sitting on Saturday afternoon.

MR. HAIGHT.—I am entirely in accord with that.

LORD MERSEY.—I assure you that if we do not sit to-morrow morning we shall sit on Saturday until I finish hearing the speeches.

MR. HAIGHT.—If Mr. Aspinall should finish his summing up to-morrow afternoon, I am sure that I could finish mine before adjournment for luncheon on Saturday morning.

LORD MERSEY.—After hearing Mr. Gibsone I should ask Mr. Newcombe to finish on Saturday. Would you try to do that Mr. Newcombe?

MR. NEWCOMBE.—Yes, my Lord.

LORD MERSEY.—Mr. Gibsone, I credit you with good reason for not taking up too much time, and I should like to know how long you think you will be addressing us?

MR. GIBSONE.—I do not think I will consume more of your Lordship's time than about ten minutes.

LORD MERSEY.—All I can say is, Mr. Gibsone, that if you do not take more than ten minutes, I shall be most grateful to you.

MR. GIBSONE.—I shall be very short indeed.

Sir ADOLPHE ROUTHIER.—It means great confidence in your case.

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JOHN REID, examination resumed.

By Mr. Aspinall:

7608. Q. You told us before luncheon that you thought there was speed upon both of these vessels at the moment of impact?—A. No, I did not say so.

7609. Q. Now, let me follow that up.

LORD MERSEY.—I certainly thought he did.

Chief Justice McLEOD.—I think I said to him: that means that both vessels were in motion, and I understood him to say, yes.

The WITNESS.—I said that the two vessels mutually came into contact, but I did not say there was speed on both vessels at the time of impact.

By Chief Justice McLeod:

7610. Q. My understanding was that I put the question to you: Do you say that both vessels were moving, and you said 'yes?'—A. I called attention to the fact that the two vessels came into mutual contact, but I did not say there was speed on both vessels.

Mr. ASPINALL.—He means that there was speed, but that he did not say there was speed.

By Lord Mersey:

7611. Q. Mr. Aspinall understood you to mean what you apparently did mean?—A. But Mr. Aspinall said I stated that both vessels were at speed.

7612. Q. Do let us understand this. Do you mean to convey to us that in your opinion both vessels were moving at the time of impact?—A. No, my Lord; Mr. Aspinall is inferring from something I said that that is what my opinion was.

7613. Q. But is that your opinion?—A. Certainly, my Lord, it is.

7614. Q. Then we divined your opinion?—A. That is correct.

By Mr. Aspinall:

7615. Q. Now, will you tell me what is your big reason for coming to the conclusion that there was movement on the *Empress* at the moment of the impact?—A. The swing of the *Storstad*.

7616. Q. Is that the only reason?—A. No.

7617. Q. Now, that is the big reason?—A. Yes, that is the big reason.

7618. Q. Now, what is the second reason?—A. May I use the model to show you? (Witness refers to model). In here, on the port side, you have a rounded shape. Part of that was due, as I have tried to explain, to the crushing over of the bow, but in this bay, on the port side, there is a most distinct evidence of a rolling motion, of a movement, of an action, and the pressure is continued until the two vessels would practically draw apart.

7619. Q. Was that damage which we see on the port bow due probably to the fact that as the *Storstad* entered in, instead of that plate existing like that, it was curled round the *Empress*?—A. That was one of the contributory causes.

7620. Q. And if that is so, what is happening is that the port bow of the *Storstad* is impinging upon these curved or driven-in plates of the *Empress*?—A. That is correct.

7621. Q. Under those circumstances, may not the damage which we find to the *Storstad* on her port bow have been produced by headway upon the *Storstad*, which is driving her bow against that curve there?—A. Not totally.

7622. Q. To some extent?—A. To some extent, certainly.

7623. Q. You said not totally; in what respect do you want to qualify the answer that you have given to me?—A. You have on the port side this bay and you have over here another. In here, (indicating on model) you have marks which could only be

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caused by the turning of the *Storstad* round there about 100 degrees. When she had finished her swing there were still signs of pressure; when she had gone through this 100 degrees, there were still signs of her being forced down against the side of the vessel.

7624. Q. Aren't we now getting back to your big reason, the swing?—A. Yes.

7625. Q. Your second point was that owing to the damage which we see on the port bow, you came to the conclusion that that was caused by the headway of the *Empress*?—A. Yes.

7626. Q. And I am suggesting to you that if instead of having the straight wall of the *Empress*' side as the *Storstad* goes in she drives the plating back; if there is headway upon the vessel just entering, the result of the headway upon the vessel just entering will be to break the port bow of the *Storstad* against this curve and produce what we see without headway upon this vessel, if headway is given to be upon the *Storstad*. Do I make my meaning clear?—A. Perfectly, but my answer was to the effect that there were on this curve horizontal traces which showed that this action had gone further than the part you refer to; it had extended and pressed that hollow further aft and formed another.

7627. Q. How can you determine that it had pressed it further on? It might be caused by what I am suggesting to you: namely the entry of the *Storstad* with way upon her against the stationary and folded back plates of the *Empress*. Are you in a position to say that there must have been, under those circumstances, headway upon the *Empress*?—A. I find as I say, traces further aft than the part you refer to of that action, which I am calling your attention to.

7628. Q. But you are introducing again your swing?—A. The two are locked together.

7629. Q. Now, is there any other reason of importance which leads your mind to the conclusion that there was headway upon the *Empress*?—A. None that can be taken from the evidence that I have been able to gather from this *Storstad* damage.

7630. Q. Do you mean that you cannot suggest any further reason; is that your answer?—A. No, I do not wish to suggest any further reason.

7631. Q. In view of what you have heard and what you have seen, these are the two reasons which lead you to the conclusion that there was headway upon the *Empress* at the moment of impact?—A. That is correct.

7632. Q. Now, is it your view that before the *Storstad* penetrated the starboard side of the *Empress* she was damaged in the way we see her now, or it is your view that part of that damage was caused after the *Storstad* had gone in?—A. Part was caused at the time of entrance—penetration—and part afterwards.

7633. Q. The view of Mr. Hillhouse was that the *Storstad* had impinged at a slight angle leading aft with the starboard side of the stem first in contact with the plating of the *Empress*, and owing to the strength of the plating of the *Empress*, supported by these various decks, that that at once broke and damaged the stem bar and the attachments connected therewith. Once the stem bar and the attachments connected therewith were broken, there would be very little to determine the way in which the broken stem would go, and what Mr. Hillhouse told us was that by reason of the impact in the first instance being upon the starboard side of the stem, and the *Storstad* travelling at a certain speed, that would set over the bows of the *Storstad* to port. Do I make my meaning clear?—A. Perfectly.

7634. Q. In other words, if I were to run against that wall in the dark and hit my nose against it, just what would happen would be that my nose would probably go over to the left. That is what I want to convey to you.—A. I understand perfectly.

7635. Q. Do you think that is a right explanation of this?—A. I certainly do not.

7636. Q. It would be a simple explanation.—A. Not when you take the stem that you refer to and knock a piece right off; that is, part of the stem, the broken stem, is gone altogether.

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7637. Q. How does that in any way affect the suggestion I am making?—A. It affects it this way: You cannot get an impulse upon this whole stem by knocking off the top of it. The impulse is gone; you have knocked it off, and that is all there is to it.

7638. Q. Now you have told us—and I suppose you attach some importance to it—that lower down on the broken stem there is some slight portion of it slightly set to starboard?—A. That is correct.

7639. Q. What importance do you attach to that fact? You mentioned it at the outset of your explanation.—A. I attach this importance: that I was very anxious to find out what was the first feature of the *Storstad* to touch the *Empress* and where it touched it.

7640. Q. Is that the only importance you attach to it?—A. That is the only importance.

7641. Q. It was curiosity, which might enable you to draw some conclusion?—A. Perfectly.

7642. Q. It has not enabled you to draw any conclusion has it?—A. It has.

7643. Q. Has it enabled you to draw any useful conclusion?—A. I think so.

7644. Q. What is the useful conclusion that you draw from the fact that some where down the stem of the *Storstad* you find it slightly set to starboard?—A. I find that the stem, assuming an angle of about 45 degrees for the meeting of the two vessels, the stem could just reach—I admit that the calculation is a little delicate, but the stem could just reach the most projecting part of the *Empress*' side and about the same time the projecting anchor on the starboard side of the *Storstad* was just ready to come in contact; therefore there was going to be a conflict of tendencies and that would send it over; that conflict of tendencies I described, and its connection with the opening of this scarf. When the other tendency disappeared, the greater tendency through the anchor being rolled between the two decks of the *Storstad* and the *Empress* started the stem turning, and that tendency was continued down by the side, and this starboard side of the stem and the plating came in contact with each deck much further down projecting a little further out—

7645. Q. Excuse me; that is a statement of fact you have just made.—A. That is as near the facts as the question can get.

7646. Q. What I am asking you is this: Does the fact that the bow of the *Storstad* was at that one place slightly set to starboard enable you to draw any conclusions which assist you?—A. Certainly.

7647. Q. In arriving at your final conclusion as to the headway upon the *Empress*?—A. No, I am not looking for that. When I started out I was looking for the angle of contact. It does help me; you asked me if it helped me. I was looking for the angle of contact, and I found that suited my angle of contact.

7648. Q. It was only for the purpose of enabling you to arrive at the angle of contact?—A. That was my first step.

7649. Q. Looking at a case of this kind quite broadly, if the *Storstad* crashes into the *Empress* and the *Empress* is moving and represents, I think I am right in saying, a displacement weight of about 18,000 tons, the momentum which would result from the headway of that mass would be very, very great would it not?—A. It would indeed.

7650. Q. Now, assuming that the *Storstad* crushes into the side of the *Empress* and this great mass is moving from port to starboard, wouldn't you expect the nose or the stem of the *Storstad* to be apparently driven over to starboard?—A. I am sorry that I do not quite get the trend of your question. Do I take it that you have given the *Empress* motion?

7651. Q. Yes, that is what I am driving at; I want to test whether the motion in fact existed or not. You have told me that the momentum due to the moving of the

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Empress, in view of her great displacement, would be very great; of course the greater the speed the greater the momentum.—A. Yes.

7652. Q. Now, if the *Storstad* drives into this moving mass and that moving mass is moving from port to starboard across the bows of the *Storstad*, wouldn't you expect the forward structure of the *Storstad*, the stem and parts adjacent thereto, to be bodily carried over to starboard?—A. Not at all; it all depends upon the nature of the penetration and the speed of penetration.

7653. Q. My suggestion to you is that in view of the fact that so far from the stem being set to starboard, it is actually set to port, that negatives the suggestion of headway upon the *Empress*. You do not agree with that suggestion?—A. No.

By Lord Mersey:

7654. Q. That appears to me to be important. Would you tell me why the stem would not under those circumstances be bent over to starboard, the stem of the *Storstad*?—A. May I say, my Lord, that one has to take the angle at which I find the penetration taking place, into account.

7655. Q. I am aware of that. Here is the *Storstad* hitting against the *Empress of Ireland*; here is the stem of the *Empress of Ireland*; there is her stern. The *Storstad* strikes her at about that angle (indicating)?—A. Yes.

7656. Q. And at once penetrates in through the skin of the *Empress*. If this vessel, the *Empress*, is moving—I have forgotten how many thousand tons, Mr. Aspinall?

Mr. ASPINALL.—18,000 tons displacement.

By Lord Mersey:

7657. Q. 18,000 tons, she has an immense momentum, has she not? She grasps hold, so to speak, of the bow of the *Storstad* and she is coming along with this great momentum. Can you tell me why the effect of the moving mass of the *Empress* will not twist this stem round to starboard?—A. Because, my Lord—

7658. Q. You may be right, you know; I want to understand it.—A. The penetration is a matter of a very short interval of time. The stem, as I explained it, got a violent impulse to the port side by reason of this anchor which crushed between the decks and which leaves its trace of its pushing up the stem; that can be clearly indicated. That started this stem turning in the other way, and though it had that initial tendency that your Lordship refers to, it did try to get to starboard, and then finally went over to port.

7659. Q. Then, as I understand you, you agree with Mr. Aspinall that the first tendency of the *Empress* would be to twist the stem of the *Storstad* to starboard?—A. That is my belief and my statement.

7660. Q. That appears to me to be right, if I may say so. Now, will you tell me how the two vessels changed their minds, and having begun by pressing the stem of the *Storstad* over to starboard, began pressing the stem of the *Storstad* over to port?—A. I can explain it with the model, my Lord. Here is a place on the starboard side where this projecting anchor cut. That anchor is a projecting thing on the *Storstad's* bow from the hawse pipe, and is isolated.

7661. Q. Isolated how?—A. It gets in between the stem and the side of the *Empress* and it is all by itself. In other words, it is a projecting thing; it prevents the contact of the stem at this height directly with the plates and the framing of the moving *Empress*. That anchor shoved over the stem bodily, and broke this very heavy casting. The deck did not want to go over, because it had not been roughly treated, and it burst this stem away from its plating, and so this tendency to go over to port, unless the stem had turned—

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7662. Q. I cannot understand this. The first result of the impact is, in your opinion, to twist the stem of the *Storstad* over to starboard?—A. I have so stated, my Lord.

7663. Q. Now then, will you try to explain to me, the *Empress* being a moving mass of 18,000 tons or thereabouts, with enormous momentum; will you explain to me how that moving mass, doing what you naturally would expect it to do, push in the stem of the *Storstad* to starboard, would suddenly change and begin to push that stem to port?—A. Because you have two component forces in the direction of the side of the *Empress*, but you have a far greater component force driving this whole bow and crushing its way into the *Empress*, and that comes to bear first upon this anchor.

7664. Does that involve the notion in your mind that the *Storstad* was moving at considerable speed?—A. Not at considerable speed, my Lord. I want to point out that this force was isolated. You had the whole weight of the *Storstad*—it is 13,000 or 14,000 tons—behind a small spot on this stem. The anchor is in the way between the *Storstad* and the *Empress*' side and it gives the stem an initial twist.

7665. Q. Then does the explanation of what I call the change in the mind of these two vessels hang upon the anchor?—A. That is the initial tendency, my Lord; to pitch the stem over to the port side. The anchor got in there as a buffer between the two ships, and the trace of the anchor and its action upon the stem can be clearly indicated, not only in this model but in those photographs; it is clearly shown. Having once got the impulse the stem continued to that side.

By Chief Justice McLeod:

7666. Q. The *Storstad* was heavily loaded, and the vessel would not swing, except if the *Empress* were moving she would swing towards the stern of the *Empress*?—A. That is so, my Lord.

7667. Q. The bow of the *Storstad* being fixed in the side of the *Empress*, the whole weight of the *Storstad* being behind, the swinging towards the stern of the *Empress* would have some connection with the turning of the bow?—A. It did not affect the stem, my Lord. This tendency I speak of, is the initial tendency of penetration when the anchor first caught, but it was rolled and it caught in between the starboard side of the bow of the *Storstad* and the *Empress*'s framing, and that shoved the stem over. That trace is most prominent in the *Storstad* in the photographs which you have seen.

By Mr. Aspinall:

7668. Q. Your view, Mr. Reid, as I understand it is this: that in consequence of that anchor being brought against the forward part of the wound in the *Empress*, it acted as a buffer, as you say, and drove the stem over to port in the way we now see it?—A. That is before the wound has attained any dimensions or got hold of the anchor.

7669. Q. Be it so. The anchor is a buffer, you say, causing that, but equally so was not the port side of the *Storstad* in immediate contact with the advancing *Empress*, if she were advancing?—A. Not at that moment.

7670. Q. But why not? She is in; you have got the anchor in contact on the starboard side.—A. But she is not in.

7671. Q. She is not in?—A. No, she is not in.

7672. Q. She has not then gone in?—A. She is just going in. It is at the moment of contact that I refer to this anchor as being a buffer.

7673. Q. If the anchor has not gone in, it cannot be a buffer, can it? It is outside the wound.—A. I leave it outside the wound.

7674. Q. Then, if you leave it outside the wound, how is it a buffer? If I have a buffer, you know, it is something I should think, that prevents me from being buffeted. Isn't that the idea of a buffer, a fender?—A. That is what they call a buffer, certainly.

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7675. Q. Then how can you have your buffer outside the wound? How does your buffer operate?—A. The buffer operates by being brought into contact with the *Empress* standing from the side of the *Storstad*, and is caught between the two decks at an angle such as enables it to come to bear almost on a flat surface.

7676. Q. Isn't that rather a fanciful suggestion?—A. Not in the least. Perhaps I do not make myself fully clear.

7677. Q. You do indeed. Now then, that at any rate is sufficient to overcome this great driving power that the momentum of the *Empress* would give. It not only equalizes it but it overcomes it, and the result is we find the stem, instead of being set to starboard, is set to port.—A. That is correct.

7678. Q. These are the two forces that are fighting, and this force which is due to your theory proves the stronger of the two.—A. I should explain there that the anchor starts this tendency before any actual penetration has been done.

7679. Q. You have suggested that.—A. The *Empress* does not, therefore, get the grip of the stem that you seem to assume. I hold that the stem bar never did get a grip of the *Empress*.

7680. Q. Although it penetrated through the bilge keel and the orlop decks?—A. I do not assume that.

7681. Q. Then I must ask you about that. How could it, even according to your angle, escape going through these various steel decks and the orlop stringer? Your view is that the stem of the *Storstad* never penetrated these steel decks that Mr. Hillhouse thought it did, or the stringer that is just inside the orlop deck.—A. I want to show you what I mean by the stem bar. I mean this actual bar was not the agency that penetrated through these decks to the orlop stringer. The stem bar was in contact for a moment with something that represents the orlop stringer.

7682. Q. But the thing in its present distorted form did go into the *Empress*?—A. I admit that.

7683. Q. In order to reach its resting place inside the *Empress* must it not have gone through these steel decks?—A. No, these steel decks were rolled over and pushed in and there is no trace of that whatever—

7684. Q. In other words, they gave before it?—A. They gave before this blow, through this portion here (indicating on model).

7685. Q. They gave before it in the sense that it didn't go in, you mean?—A. That is right.

7686. Q. If they had not given before it, that distorted mass would not have gone as far into the side of the *Empress* as it did, would it?—A. I did not get your question.

7687. Q. At any rate, these steel decks were rolled back before the advancing *Storstad*?—A. Rolled back or pushed up.

7688. Q. It is your view, as I understand, that the side of the after boiler space was pierced, and that alone.—A. That is my view.

7689. Q. That is your view of the matter?—A. Yes.

7690. Q. We have the evidence of a man called O'Donovan, who was one of the engineers on the *Empress of Ireland*, who was in the forward boiler space, that is, forward of the bulkhead we are discussing, and he says that about twenty seconds after the impact the water rushed through the starboard No. 2 bunker into the stoke-hole. Does that fit with your theory?—A. Apparently not.

7691. Q. Would you like to reconsider your theory?—A. No, not at all.

7692. Q. And that doesn't influence you?—A. Not the slightest.

7693. Q. You have no reason to doubt its accuracy?

LORD MERSEY.—Wait a moment, Mr. Aspinall, I will ask a question or two.

7694. Q. If that is true, is it consistent with your theory?—A. It is not, my Lord, although I would have to go into the interior bunker arrangements of the ship to examine it carefully.

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7695. Q. No, but is the evidence of O'Donovan inconsistent with your theory?—
A. It is.

7696. Q. Then either O'Donovan must be mistaken in what he told us or must be trying to deceive us, one thing or another—he says he saw it?—A. I should like to know my Lord, just when he saw this water pouring in.

7697. Q. I thought you said that answer of O'Donovan's was inconsistent with your theory?—A. Ultimately, my Lord, the water would be getting in at various places and would get to that bunker.

7698. Q. Do you still wish to say it is inconsistent with your theory?—A. Yes, my Lord.

7699. Q. Then it seems to me to follow that O'Donovan, who says he saw it, is mistaken in saying so, or else he is deceiving us?—A. My Lord, I think the time factor comes into play. I don't know when O'Donovan saw this water coming from the bunker.

7700. Q. Then you go back to the position I put to you before, that his answer may be consistent, but is not necessarily accurate?—A. That is perhaps correct, my Lord.

7701. But that is not what you said. You told me it was inconsistent and now you only say it may be inconsistent?

Mr. ASPINALL.—Perhaps I did not draw your attention to it as directly as I should have, and let me read again the answer of O'Donovan. That is not a question, but an answer he volunteered. At page 760 of the evidence taken on Friday, June 19, he was asked:

Q. Can you tell us what happened; what was the first thing you felt?—A.

After the impact, about twenty seconds after, water rushed through the starboard No. 2 bunker into the stoke-hole.

I am putting emphasis upon the words 'twenty seconds after'—now if it was twenty seconds after, will your theory fit that evidence?—A. No.

7702. Q. Then it comes to that, that this will not fit with your theory?—A. Yes, it comes to that.

7703. Q. Now, with regard to the swing of the *Storstad*, I want, if you will, to have you listen to the engineers' log of the *Storstad*, to see what she did according to her log—I don't know whether this log is to be rejected later or not, but at present it is in evidence. What he says is: Full speed to three o'clock; slow speed to 3.02; then stop; then 3.05, full speed astern; 3.10 stop; 3.20 slow speed ahead. Now if that log be right there is five minutes reversing at full speed from 3.05 to 3.10 and we are told that that just about fits, within thirty seconds, of the time when the two ships struck. Now, will you keep that in your mind?—A. I will try to.

7704. Q. Now what I want to ask you is this: assuming that the *Storstad* came into the side of the stationary *Empress*—because I wish to make that assumption if you will—and that she had steerage way upon her and was swinging under hard-a-port helm—can you make that assumption for me, Mr. Reid?—A. Yes.

7705. Q. The tendency would be that she would be pressing her starboard side against the forward part of the wound, that is, the rudder would be doing its best to be effective in that direction, that is right, isn't it. She then starts going full speed astern—A. Pardon me, I do not assume what you said. Her rudder is to starboard, and the effect of that with a stern screw is to press the stern up to starboard, which is not the same as what you said.

7706. Q. I agree with that?—A. Yes, and you asked me to assume certain things, and I do not think your assumption is correct.

7707. Q. What I want you to assume is this: when she came on to the side of the *Empress* she had, as you have told us, headway which drove her on to the side of the *Empress*? She had headway on?—A. Yes.

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7708. Q. And she had her helm hard-a-port—the result of that would be that she would have a tendency to go to starboard?—A. Yes.

7709. Q. And there would be a difficulty in going to starboard, because her stem is pressing against the *Empress*?—A. Yes.

7710. Q. And the *Empress* is preventing it from going to starboard?—A. Yes, that is correct.

7711. Q. Just about this time that she has entered, the engines are reversed, and the result is she is going to the *Empress* with a swing to starboard, and as she emerges from the hole—which, in the view of every one was extremely quickly, it would be under engines going astern, and the tendency is a cant to starboard, under the engines going astern?—A. A slight tendency.

By Lord Mersey:

7712. Q. That is to send her around in the direction in which her helm is turned?—A. Yes.

By Mr. Aspinall:

7713. Q. Given those two things, wouldn't those two things well account for what the witnesses say, that when she withdrew, her course was become more or less on a parallel line with the *Empress*?—A. No, sir.

7714. Q. Why not?—A. Because this component carrying the stem of the *Storstad* around through the swing caused by the stern screw is of a very small amount. It has to deal with an enormous vessel. If you had an initial swing it would continue, but if you start from a condition without swing, she would take some time to get that up.

7715. Q. But I am assuming now that my case is right and that she had an initial swing to starboard. I am assuming that this vessel hard-a-ported her helm, with good steerage way upon her, and if that is so it gives me my initial swing?—A. No, that initial swing is immediately stopped by the contact.

7716. Q. At any rate, assuming what I have said, I have the initial swing when she enters?—A. You have.

7717. Q. And you say the swing is checked by reason of coming in contact with the *Empress*?—A. Perfectly.

7718. Q. But the helm is in the proper position for that?—A. Yes.

7719. Q. For a swing to starboard?—A. Yes.

7720. Q. Then she is in a very short space of time feeling the effects, as she swings, of the reversing engines?—A. No, it takes quite a little while for the force to get into play. It is so small that it won't really be felt by the vessel for a certain time.

7721. Q. Are you a nautical gentleman?—A. I am not a man who has to do with the handling of ships.

7722. Q. Neither am I, but I have heard a good deal about it, as I suppose you have?—A. Yes, sir.

7723. Q. If you had put your helm a-port—I presume you have heard something about what will happen if you put your helm a-port or a-starboard with your engines going stern?—A. Yes.

7724. Q. Then you do know this fact, that with a single screw, if you reverse it, with your helm either a-port or a-starboard, it cants your head that way, the way your helm is put?—A. Pardon me. I should say it cants the stern the other way.

7725. Q. I quite agree. It is better for some point of my case, it cants the stern to port and puts the stem to starboard?—A. If you have an initial impulse, but by reversing the screw from a position where you have come to rest, the bow hardly moves, but the stern goes to port.

7726. Q. The stern goes to port, and the stem to starboard—the result is to head around to starboard.—A. No, the head of the vessel may stay in its place.

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By Lord Mersey:

7727. Q. If the stern moves?—A. This action of the reversed wheel has the tendency first of all, starting from rest, to carry the stern over.

7728. Q. Yes, to carry the stern over before what?—A. Before the bow begins to move, before the bow begins to get under way at all.

7729. Q. But the vessel is not a serpent that can twist itself? The stem must head one way and the stern another?—A. Yes, but the bow does not swing, the stern moves over, and then the bow begins to get into action, and the whole thing is at the same time complicated by the whole vessel trying to go astern. The bow is hardly moving.

7730. Q. But the bow at all events is bringing you around—you cannot move the stern of the vessel without moving the stem?—A. It is the swing that I was trying to get right, my Lord.

By Mr. Aspinall:

7731. Q. Well do you think you can move the stem of the vessel without moving the bow?—A. It is the swing I am talking about.

7732. Q. Now, assuming that to be the ship—I am illustrating with a lead pencil, and assuming this end of the pencil to be the stem, and the other end of the pencil to be the stern, and the single screw on the right hand in action, if the engines go astern the result is to bring the stern over this way?—A. That is correct.

7733. Q. And the moment that leaves the point to come this way, at the very same moment of time the other end moves around the other way, doesn't it?—A. It changes its direction, yes.

7734. Q. Well, that is what I have been asking you?—A. No, we have been talking about the swing.

7735. Q. Well, I will use the word 'swing'—if the stern is swung one point to port, isn't the bow swung one point to starboard?—A. Not necessarily.

7736. Q. Why not?—A. Because if you are swinging about a point close to the bow, the bow does not take the swing at all, but it is the stern that takes the swing.

By Lord Mersey:

7737. Q. But isn't there a corresponding movement of the bow?—A. Not a lateral swing. It ultimately comes to a swing, but it does not do so from a state of rest. I think I could explain that better in a diagram.

7738. Q. Supposing this is a ship and that is the stern and that is the stem, if you move the stern around, can you imagine the stem remaining stationary?—Not absolutely, my Lord.

7739. Q. Unless, you know, there is a joint in the middle of the ship?—A. No, my Lord, but the ship does not swing about its centre of length in a condition such as we are assuming.

7740. Q. I don't know what the conditions are that we are assuming, but it seems to me that if you move the stern of a ship around you must move the stem?—A. I think if you allow me to make a diagram that I can explain it better.

7741. Q. If you think you can help us by doing so, I would like you to make a diagram?—A. Yes, my Lord, I have made one. Here is a ship, my Lord. You start the right-hand screw going reverse. Normally, when a ship swings under any action, it swings more or less about the centre of its length. If it is not in rapid motion, it goes around.

7742. Q. But that is the axis on which it swings?—A. Yes.

7743. Q. Oh, that is not the swing of the ship?—A. When you start the action of the screw the tendency is for the vessel to pivot, as it were, about the bow.

7744. Q. Well now, after it has swung, that is after the stern has swung to port, show me where the bow would be?—A. Yes, here it is, the new position. Now the head has changed its bearings, but it has not swung, my Lord. The swinging is done by the stern.

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7745. Q. Oh, all you mean is this, that if you have the stem here and the stern there, you can move the stem that way and move it right around? All that alters with regard to the stem is its bearing?—A. Yes, my Lord.

By Mr. Aspinall:

7746. Q. Whether that is right or not, if the helm is put to port, the ship will come to port, with the reversed engines?—A. Yes, that is right.

7747. Q. There is only one other matter I want to trouble you about, and that is in connection with the class of rudder with which this vessel was fitted. You have told us that you know by reputation Dr. Elgar. I have no doubt that you also know by reputation Mr. Hillhouse?—A. Yes, I know him by reputation.

7748. Q. And I daresay you have a very high respect for him?—A. I have indeed.

7749. Q. Now do you know how the area of the rudder of the *Empress of Ireland* at the time of the disaster compares with the area of the rudders of other great ships of that class that cross the Atlantic—A. My judgment is, it is considerably smaller.

7750. Q. Well, that is somewhat of a general answer. Can you give me some specific cases? I don't want many, but can you give me two?—A. The answer has to do with the form of the *Empress*, which is very peculiar, and for which there is no type that you can really absolutely compare with it.

7751. Q. Then we cannot have a comparison?—A. Not a very accurate one.

7752. What is the peculiarity in the *Empress* which prevents you giving a comparison between her and other ships of that character?—A. This peculiar formation of the stern above the rudder.

Q. The fulness?—A. Yes, the fulness.

Q. So you cannot think of any other ship at the moment which would give us any useful information?—A. When this subject came up I obtained the best information I could and I found that it is quite small.

By Chief Justice McLeod:

Q. You say the rudder of the *Empress* is quite small?—A. Yes, quite small, my Lord.

By Mr. Haight:

Q. You have been asked, Mr. Reid, about the movements of both vessels, and you have expressed the opinion that both vessels were in motion?—A. Yes.

Q. Captain Kendall has stated that as he stood on the bridge when the *Storstad* first came into sight, that in spite of the fog, and in spite of the distance he was above the water, when the *Storstad* was approximately 100 feet away from him he could see her coming with a bow wave. I understand his opinion to be that she was going at full speed. Now, will you tell me what, in your opinion, would have been the effect upon the *Empress*, if the *Storstad*, constructed as she is, with her angles running fore and aft, had struck the side of the *Empress* amidships at the angle which you have found?—A. While I cannot give any figures on such a question, the penetration would have been sensibly greater. I have that idea.

7753. Q. You have stated that two of your reasons for thinking the *Empress* was moving, are the swing of the *Storstad* and the rolling effect on the port bow. Does the impression left by this pad, and by the porthole on the *Storstad's* bow, add anything to the data on that point?—A. It shows that up to the last minute, when the swing of 100 degrees had been completed, a pressure upon the starboard side of the *Storstad* was still pushing this hole in the port bow against the *Empress's* side.

7754. Q. I do not feel, Mr. Reid, that either the court or counsel quite understood you in connection with the initial tendency to bend the stem of the *Storstad* to starboard, and the subsequent alteration to the tendency to bend it to port. This exhibit 7-D, the photograph, seems to show the effect of the initial tendency to set

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the stem of the *Storstad* to starboard, does it not?—A. It does, I think one or two of the other photographs show it better.

7755. Q. Which other?—A. Exhibits 7-E and 7-F.

7756. Q. Well, at any rate, am I correct in understanding from the photograph 7-D that there is a perceptible bend to starboard of the stem plate—it is down in the vicinity of the scarf of which you have spoken?—A. There is.

7757. Q. That bend in the stem plate is shown in the photograph 7-D and not shown in the other photographs, as I take it?—A. I thought you were referring to the anchor.

7758. Q. No, I am talking now about the bend to the starboard?—A. Well, that Exhibit 7-D does show that very clearly.

7759. Q. Do I understand you correctly, that the stem of the *Storstad*, down near the lowest hanging plank in that photograph, was, in your judgment, the first point that struck the widest point on the side of the *Empress*?—A. That is my idea.

7760. Q. Then the forward movement of the *Empress*, when our stem first touched, tended to set the stem to starboard?—A. Yes.

7761. Q. Now where is it the stem gives way at the scarf? Where is it with reference to that lowest plank?—A. It is between the lowest plank and the one above. There is a scarf in the stem, a weak spot.

7762. Q. Now when the stem and the side of the *Storstad* were in their original form, and were touching, as you believe, at an angle of forty degrees, how far would the *Empress* have to continue on the angle of forty degrees after she touched below the scarf on the stern, before the starboard anchor would strike high up on the ship's plating?—A. The two contacts were almost simultaneous, but I consider the lower one tending to put over the stem to starboard occurred just momentarily before the other.

By Lord Mersey:

7763. Q. What do you mean when you say "momentarily"?—A. It is not calculable.

7764. Q. A second?—A. Not even a second, my Lord.

By Mr. Haight:

7765. Q. Can you in distance give us an idea of how far the anchor would be separated from the side of the plating of the *Empress* if you put the stem of the *Storstad* in its original shape up against the side of the *Empress*, so that the stem first touched the *Empress* just below the scarf on your stem?—A. No, I cannot give you that in distance, for the anchor would practically be coming in contact between the two decks.

7766. Q. That is, a movement of a few inches, after the stem touched would bring the anchor also into encounter, is that correct?—A. I cannot give you any figures.

7767. Q. If we assume that the stern touches low down, just an appreciable instant before the anchor touches, and, as you state, the scarf gives way, will you please state once more what the effect will be of the anchor striking high up on the side of the *Empress* as to the bending of the stem one way or the other?—A. It gives it a much more powerful impulse to the port side.

7768. Q. When you assume that the *Storstad* is moving with 10,400 tons of coal and her own displacement weight, her momentum is also considerable?—A. That is right.

7769. Q. That is the mass of the two vessels is not so very much disproportionate, is it? The *Empress* is supposed to displace 18,000—can you give me roughly what the *Storstad* would displace?—A. Between 13,000 and 14,000 tons.

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7770. Q. Now, after the anchor touches, I understand that for an appreciable instant the anchor is the butt—it is the isolated projection which sustains the full force of the contact?—A. That is correct.

7771. Q. Until it has been crushed by the force of the penetration into the side of the *Empress*?—A. Yes.

7772. Q. Now, after the initial impulse had been received from the projection of the anchor, you spoke about a continuing impulse down?—A. Yes.

7773. Q. What is it? After the anchor has affected the stem, the force that caused the stem to bend is continuing to bend it in the same direction?—A. Coming in contact with each of the decks which are each projecting a little farther as the *Storstad* came within the ship's side. There was a tumble-home which makes each deck project a little farther than the one above it.

7774. Q. Which deck projects the farthest with reference to the line of the anchor?—A. The main deck and the orlop deck stringer are really the farthest out.

7775. Q. Are they nearest the anchor?—A. No, the anchor was in contact with the upper deck of the *Empress*. Then the lower deck comes next. It projects a little farther out, and then the main deck.

7776. Q. Do I understand that each deck projects farther out than the deck below that?—A. I didn't quite get the question.

7777. Q. Well, the decks didn't touch all at the same time?—A. No, they did not.

7778. Q. There was some deck that hit below the anchor?—A. Yes.

7779. Q. Is that one of the decks that projects farthest out or one farthest in?—A. It projects farther out.

7780. Q. Then the succession in which the decks came in contact with the star-board bow would begin at the top and work down?—A. No, the anchor is in between the two upper decks, that is what caused the initial impulse. Then as you come down, as the anchor pushes in and pushes also the stem over the port, the next contact comes into play lower down, and then a contact below that and always continuing this tendency.

7781. Q. In succession?—A. Yes.

7782. Q. And the succession works downwards?—A. That is correct.

7783. Q. I think Mr. Aspinall failed to understand your statement that the stem bar did not penetrate. Will you please state what did penetrate into the side of the *Empress* on your ship?

LORD MERSEY.—I did not understand that this gentleman said that the stem bar did not get inside the *Empress*. I understood him to say that it did get inside. That it penetrated in that sense at any rate.

Mr. HAIGHT.—Yes, my Lord, but I thought Mr. Aspinall had some difficulty with that point in the cross-examination, and I thought perhaps it might be made a little clearer to him.

By Lord Mersey:

7784. Q. It did, of course, penetrate in the sense that it got inside?—A. Absolutely; it did not do the cutting.

7785. Q. That is what I understand?—A. Perfectly.

By Mr. Haight:

7786. Q. The cutting edge of the *Storstad* was turned, as I understand it, at the first moment of contact?—A. Correct.

7787. Q. You were asked something about the effect of the rudder being to star-board and the wheel being to port and the initial swing caused by the reversing engines. Will you please tell me what effect the reversing of the engines and of the propeller has upon the influence of the rudder?—A. Do you mean the rudder being over to star-board?

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7788. Q. No matter which way the rudder is going. Does the quick water which is forced forward, as I understand, by the reversed propeller, in any way affect the efficiency of the rudder itself, wherever you put it?—A. Certainly.

7789. Q. Now what effect does it have?—A. It all depends on which way the rudder is turned. If the rudder is turned to starboard it would neutralize the effect of this going astern wheel.

7790. Q. When your vessel is going forward, with your engines going forward, the rudder as it swings, bears upon the water going astern?—A. Yes.

7791. Q. And when you put your engines the other way, how does the water come to bear upon the surface of the rudder?—A. Streams come from aft and strike upon the rudder, and if the rudder is over to starboard, that stream more or less neutralizes the stern effect.

7792. Q. The reversed propeller changes the direction of the streams of water?—A. That is correct.

7793. Q. And if your rudder is not actually swung out to starboard when you go ahead, the water striking that starboard side of the rudder tends to swing the bow to starboard?—A. Correct.

7794. Q. When your propellers are going astern the stream of water is striking on the port side of the rudder, and tends to set your stern to starboard?—A. That is right.

7795. Q. I understood you to say when Mr. Aspinall was asking you to make some assumption as to the part which might have been penetrated, that you did not agree with his statement that the *Storstad* penetrated not only the decks, but the bilge-keel also. Was I correct?—A. I examined the bilge-keel.

7796. Q. Why do you think the statement of Mr. Hillhouse is not correct that you cut through the bilge-keel?—A. Because about twelve feet from the keel line I have a fore-foot, which makes a circular turn to about twelve feet abaft my vertical perpendicular, and that leaves a part of the stem which could not possibly reach the bilge-keel with the penetration I have found.

7797. Q. In your judgment the bilge-keel was so low down that the stem didn't reach it?—A. Yes, it was so low down, and on the bilge of the *Empress*—it couldn't be reached.

7798. Q. The draught of the *Empress* was not sufficient to bring the stem against the bulge keel?—A. No, the form of the *Storstad's* stem was such that it could not reach the bilge-keel of the *Empress*.

7799. Q. Will you please indicate, Mr. Reid, upon the long working plan of the *Empress*, the location of the pad and of this port which, in your judgment, left their marks upon the port bow of the *Storstad*?—A. Yes, that was the point there (indicating).

7800. Q. How have you marked it so that it can be identified?—A. There is a cross marked here in black, and I put another cross against it.

Mr. HAIGHT.—Witness indicates with a check mark and also with a check on the cross, the pad immediately below the cargo door, which cargo door is directly under the forward side of the aft funnel.

Your Lordships can see, perhaps, the cargo door on this plan, with the pad under it.

7801. Q. Now, the port-hole which you think also marked the side of the *Storstad*, is where?—A. Just above and forward.

7802. Q. That is, the port-hole across which you have marked a cross in lead pencil?—A. Yes.

Chief Justice McLEOD.—Is that plan in evidence, Mr. Haight?

Mr. HAIGHT.—I understood it was put in evidence this morning, my Lord, and marked. If not, I would like to put it in evidence now.

(The working plan of the *Empress* is put in and marked as Exhibit D-1.)

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LORD MERSEY.—Do you want to ask anything, Mr. Aspinall?

MR. ASPINALL.—No, I do not want to ask this witness any questions. What I wanted was to be allowed to recall Mr. Hillhouse to deal with the suggestion that this rudder was deficient to the credit of the company and the credit of the builder.

By Mr. Haight:

7803. Q. How does the point of this pad and the port which you have just marked compare with room 328 as shown on the plan of the ship?—A. If you make the penetration go under the bulkhead upon which that number was attached, you are about right—go under the cabin bulkhead on which that number was carried you are about right. I did not use that number till later when it was discovered.

7804. Q. Then the centre wound would be about under the bulkhead?—A. The centre line of the *Storstad* going into the *Empress* would be about under the bulkhead on which that number was found.

By Lord Mersey:

7805. Q. Have you a sketch giving the profile of the stem of the *Storstad* as it existed before the collision?—A. I have a plan of the *Storstad* which I can put in and I made a sketch of the profile of the stem of the *Storstad*.

7806. Q. Before the accident?—A. Before the accident.

7807. Q. Did you do it before the accident?—A. No, I took it off the plan.

7808. Q. Probably if we saw the plan, it would be sufficient. Have you a plan of the *Storstad*?—A. This plan on a small scale shows the general arrangement of the *Storstad*.

LORD MERSEY.—That is all we want.

MR. HAIGHT.—Would your Lordship like to have everything we have in the way of plans?

LORD MERSEY.—I would not.

MR. HAIGHT.—Perhaps the assessors would. I would be very glad to turn over everything we have. (Plan of general arrangement of *Storstad* put in and marked Exhibit 22.)

By Mr. Newcombe:

7809. Q. Just one question for my own information, Mr. Reid, because I do not quite understand your statement. Is it your opinion that if there had been no anchors on the bow of this ship the bow would have sheered off to starboard?—A. I would hardly say that, Mr. Newcombe. I think the initial tendency was to go to starboard, but whether it would have continued I could not say.

7810. Q. I want to clear up the fact as to whether you would have expected to have found the twisted bow, or the sheered off bow, if there had been no anchors hanging over the bow?—A. No, I think that ultimately the stem would still have gone off to port because the tumble-home of the *Empress*' side allowed this portion of the bow, which projects very considerably, to come in contact at the same time as this (indicating) came in contact, even in spite of the 18-inch projection of the anchor.

7811. Q. There was a corresponding anchor on the port side?—A. There was.

7812. Q. Did that cut any figure in the matter at all?—A. No, it was clear at the time of contact but ultimately it ceased to be a force in play when the penetration took place and it was forced into the centre of the ship, and not carried along on the starboard side.

7813. Q. Irrespective of the anchors, assuming the *Empress* to have been going in a direction from port to starboard across the bow of the *Storstad* would you still have found the bow twisted over to the port side?—A. I am inclined to think so.

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LORD MERSEY.—Let us see that model. (Model of bow of *Storstad* passed up to the Court.)

By Lord Mersey:

7814. Q. Did you use the expression that the cutting edge was in contact?—A. No sir, the cutting edge did not come into play; otherwise, there would be a mark.

7815. Q. What do you understand by cutting edge?—A. The face of the stem bar.

7816. Q. Do you mean this (indicating)?—A. Perfectly.

7817. Q. I understood you to say that the stem bar did not strike in the first instance at all?—A. It is my view that it was only the starboard side that struck.

7818. Q. Did you not tell us that something parted at the first moment of contact? It is suggested that you said that the cutting edge parted at the first moment of contact? Did you say that?—A. I do not think so, because I made the statement that the cutting edge did not come into play at all.

MR. HAIGHT.—I am afraid the expression was mine and apparently it was not a good one.

LORD MERSEY.—Our officer got it into his head that the expression was used. Mr. Reid says he did not use it.

MR. HAIGHT.—I think I was guilty of that.

LORD MERSEY.—Do you know what that means?

MR. HAIGHT.—It means this: You have a sharp axe; the edge having been turned, you may strike a bow with it, it is not really the original edge which cuts, or penetrates, but it is the plane of the rolled and newer edge which penetrates.

LORD MERSEY.—Do you mean to say that the stem bar was deflected?

MR. HAIGHT.—As I understand it the effect of the contact between this anchor which was projecting—

LORD MERSEY.—We are not dealing with the anchor.

MR. HAIGHT.—The whole stem is practically a series of triangles. You remember that Mr. Reid had testified that there are—

LORD MERSEY.—The whole stem a series of triangles?

MR. HAIGHT.—The whole stem, by virtue of the construction of this ship, the cross strengtheners going from starboard to port—

LORD MERSEY.—I only want this question answered: What does cutting edge mean that you allege was turned over at the first moment of contact?

MR. HAIGHT.—By that term I mean the stem bar. I should have so stated.

LORD MERSEY.—That is an answer to the question. Have you any other witnesses? Witness retired.

MR. HAIGHT.—No, my Lord, our case is closed.

LORD MERSEY.—Mr. Newcombe, have you any?

MR. NEWCOMBE.—No more witnesses.

LORD MERSEY.—Do you desire to offer any other evidence?

MR. NEWCOMBE.—I wish to put in the report certifying to the *Empress* as an emigration ship.

LORD MERSEY.—We have the emigration certificate in, I think.

MR. NEWCOMBE.—Yes, and I have the report of the Board of Trade officer here signed by Thomas E. Thompson, one of the officers of the Board of Trade.

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LORD MERSEY.—Will you tell me the date of it?

Mr. NEWCOMBE.—The date is the 15th May, 1914.

LORD MERSEY.—Was it issued at Liverpool?

Mr. NEWCOMBE.—Yes. I have here the original report of Mr. Thompson.

LORD MERSEY.—What is the date of it?

Mr. NEWCOMBE.—The 4th June last.

LORD MERSEY.—That is after the collision?

Mr. NEWCOMBE.—Yes, my Lord.

LORD MERSEY.—Under what circumstances is that report made?

Mr. NEWCOMBE.—It says 'that on the 15th of May I conducted——.'

LORD MERSEY.—I am not asking you what is in it; I want to know why it was made. Can you tell us, Mr. Vaux?

Mr. VAUX.—I think the circumstances are these: The officer inspected the boats and life-saving equipment for the purposes of the emigration certificate in Liverpool and after this collision the Board of Trade asked him to report to them as to exactly what he had done. He has made that report and he tells in the report exactly what he did in regard to putting out the boats and the other inspections that he made.

Chief Justice MCLEOD.—On the *Empress of Ireland*?

Mr. VAUX.—On the *Empress of Ireland*.

LORD MERSEY.—Do you think we ought to have that? It does not affect the question of navigation in any way. It is a question more for Mr. Gibsone. Will you read it and then we will know what it is we have.

Mr. NEWCOMBE.—The report is as follows:

"Board of Trade Surveyors' Office,
Canning Place, Liverpool, June 4, 1914.

SS. *Empress of Ireland*

Off. No. 123972.

"Sir,—I have the honour to report that on May 15th last I conducted the clearance M.S.A. Part III of the above steamer.

"I inspected all the steerages, compartments 1, 2, 3 and 4 on No. 1 Passenger Deck and compartments 1, 2 and 3 on the lowest Passenger Deck, the total number of beds 802. In each of these beds lifebelts were laid out for inspection and they all appeared to be in good order; these belts are kept in racks overhead whilst at sea and are always handy.

"I also examined the fire appliances in these compartments and saw the water-tight doors closed as I passed from one to the other. All the ladder-ways, etc., were in order, direction (oil) lamps being placed where necessary.

"On examining the crew who were mustered on the saloon deck I found that each man had a badge pinned to his coat with the number of his boat on it, and that the sailors were divided so as to provide at least two for each boat under davits.

"As soon as the muster was over the bugle was sounded and all hands repaired to the boat deck when the order 'out all boats' was given. All the boats under davits, sixteen in number, were at once swung out. Two sailors were in each and they shipped the thole-pins, passed the ends of the painters out and shipped the rudders, the rest of the boats' crews setting up the guys and clearing away the falls. From the time the order was given to the time the boats were ready for lowering about four minutes had elapsed.

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"Two of the Englehardt collapsible boats were also opened up, the canvas sides being rigged and all gear shipped.

"I then went round with the chief officer and inspected the equipment of all the boats and I found these to be in order and to comply with the regulations.

"After swinging in the boats the crew was called to fire stations by bell and bugle, hoses were stretched out and the water turned on, a number of stewards were mustered with buckets and blankets and provision men were told off to attend the boats. A number of stewards were also told off to control the passengers in case of need. Two fire annihilators picked at random from the steerages were turned on and were in order.

"The Captain then took me through all the passages and showed me the fire appliances in the first and second-class accommodation and as we came to each water-tight door it was closed to my satisfaction. Direction (oil) lamps were placed where necessary.

"I then went down the engine room with the chief engineer and saw all the water-tight doors in the engine room, tunnel and boiler room; these all worked perfectly.

"The second officer went with me to the signal locker and I found the fog and distress signals to comply with the regulations. The sounding gear also I found to be in good order.

"With regard to the boat and fire drill, each member of the crew appeared to know his duties and both were carried out quickly and without confusion.

"The life-buoys which were attached to the bridge and rails were in good order and easy to get at, floating lights being attached to half the number.

"The vessel cleared for Quebec her draught of water being 27 feet 9 inches F. and 29 feet 2 inches aft, Freeboard 12 feet 5½ inches.

I am, sir,

"The Principal Officer,
Liverpool."

Your obedient servant,
(Sgd) Thomas E. Thompson.

(Report filed and marked Exhibit 'E 1'.)

LORD MERSEY.—Is there anything else you want to put in?

MR. NEWCOMBE.—I have a printed copy of the regulations to be complied with at the time the vessel was built and also the regulations to be complied with before the vessel last left Liverpool in May. If these are required we have copies that we can hand in.

LORD MERSEY.—At present I do not see their significance and I do not like to encumber the case with things that are not necessary.

MR. NEWCOMBE.—I simply mention them in case they are required. At the opening of the case, your Lordship will remember that I read the questions that were proposed. These questions have been subject to two modifications. I hand up copies and I need not read these over again with the exception of the two which have been altered. An addition was required to one and details were asked for in the other which were unnecessary:

"11. After the vessels had cited each other's lights did the atmosphere between them become foggy or misty, so that lights could no longer be seen? If so, did both vessels comply with articles 15 and 16, and did they respectively indicate on their steam whistles or sirens, the course or courses they were taking by the signals set out?"

I am going to hand in amended copies and I have signed a copy which I shall hand to your Lordship.

"17. Were any of the persons on board the SS. *Empress of Ireland* who lost their lives, killed or injured by the collision?"

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What number of passengers and crew left the ship in the boats which got away?

How many persons were ultimately rescued, and by what means? What was the number of passengers, distinguishing between men and women, and adults and children, of the first, second and third classes respectively, who were saved? What was the number of the crew, discriminating their ratings and sex, who were saved?

LORD MERSEY.—You will hand up the amended copy of these questions?

Mr. NEWCOMBE.—Yes, my Lord. (Amended questions put in by Mr. Newcombe and marked Exhibit 'F 1'). I think that completes the case.

Mr. HAIGHT.—Have you received from the chief gunner's mate the data that he agreed to give us as to the diving?

Mr. NEWCOMBE.—No.

LORD MERSEY.—What is that?

Mr. HAIGHT.—The diver promised us a memorandum which has not arrived yet.

Mr. NEWCOMBE.—It has not arrived yet but it may be handed to-morrow.

Mr. HAIGHT.—I would like to have it as soon as possible in preparing for my argument.

Mr. NEWCOMBE.—As soon as I get it I will send you a copy.

Mr. HAIGHT.—Thank you.

Mr. ASPINALL.—May I renew my application to call Mr. Hillhouse on the matter of the rudder?

LORD MERSEY.—It is only on the question of the rudder?

Percy HILLHOUSE, naval architect, recalled.

By Mr. Aspinall:

7819. Q. Did you hear Mr. Reid criticise the area of the *Empress'* rudder in its proportion to the size of the ship?—A. I did.

7820. Q. Is it a just criticism?—A. I think not.

7821. Q. Why not?—A. Because the area compares favorably with that of other large vessels and with standard practice.

7822. Q. Could you give me the names of other large vessels?—A. I have taken out the mean percentage for thirteen large vessels, including the *Campania* and some of the Union Castle liners, and so on, and the average is 1.265 per cent. For the new rudder fitted to the *Empress of Ireland* the figure is 1.53 and for the *Aquitania* 1.45, a little less than the 1.53 per cent of the new *Empress* rudder.

By Lord Mersey:

7823. Q. But that is later than the one you were quoting here?—A. Yes.

7824. Q. Have you found any that run above 2 per cent?—A. In war vessels it is quite common to have two per cent or two and a half per cent, even up to three per cent, because greater manœuvring qualities are required.

By Mr. Aspinall:

7825. Q. Does Sir William White deal with the question in his work on naval architecture?—A. Yes, he says that "two per cent would probably be a fair average for steamships of war." In merchant ships much smaller rudders are used and values as low as one per cent have been met with.

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LORD MERSEY.—There are a few questions that Mr. Welch would like to put to you.

By Mr. Welch:

7826. Q. I think you promised to put some plans of the *Empress* in?—A. Yes, I have the plans here, I hand in the rigging plan, the hold plan, the lower and orlop decks, the main and upper decks, the shelter and lower promenade decks, the upper promenade and boat decks as the boat deck was originally built and a plan showing the curves of displacement, metacentres and centres of buoyancy.

7827. Q. Did the builder make any calculations of stability the results of which were afterwards handed over to the owners?—A. Yes, the vessel was inclined as usual and a certain number of stability curves were provided.

7828. Q. Were they given to the owners?—A. They were given to the owners.

7829. Q. Are they put in?—A. I have one copy here. It is my only copy.

LORD MERSEY.—You must part with it.

The WITNESS.—This shows the stability curves.

By Mr. Welch:

7830. Q. Can you give us any more information with regard to the lower bunkers? Taking the coal bunker abreast of the forward boiler room, is there any subdivision at the middle line of the cross bunker?—A. Yes, there is a non-watertight middle line bulkhead in the forward cross bunker.

7831. Q. How high does that extend?—A. It extends to the under side of the lower deck.

7832. Q. In what sense is it non-watertight?—A. It is pierced by two large man-holes, about 36 inches by 18 inches each; the plating is heavily stiffened to resist water pressure.

7833. Q. In the upper bunkers there is no such division?—A. No such division.

7834. Q. Between the two boiler rooms there is a passage-way?—A. Yes, there are two passageways, one for access at the hold level and another for carrying steam pipes underneath the lower deck level.

7835. Q. Is one passage immediately above the other?—A. One is immediately above the other, and the two are connected by a non-watertight partition, also containing manholes.

7836. Q. What would be the total depth of those two passageways?—A. In the neighbourhood of 15 feet.

7837. Q. So far as depth is concerned, does that apply also to the steam pipe passage at the forward end?—A. That particular steam pipe passage is above the level of the lower deck; the access passage is on the hold level as between the boiler rooms.

7838. Q. So that below the level of the lower deck is this non-watertight partition?—A. Yes.

7839. Q. You heard the evidence given on this point; can you tell from that evidence whether the watertight door in the forward end of the bunker at the star-board side of the engine room was open or closed?—A. I think that question was asked of one of the engineers and he replied that he did not know whether that door was open or closed.

7840. Q. If it were open, of course that would accentuate the list?—A. Certainly.

7841. Q. Then, in the bulkhead between the two boiler rooms and in the upper bunkers there were watertight doors?—A. Yes, sir.

7842. Q. Do you know or have you heard whether these doors were open or closed?—A. No, there has been no evidence regarding those two doors.

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7843. Q. I think, Mr. Hillhouse, that you have calculated the metacentric height of this vessel as she left Quebec?—A. As she was at Father Point.

7844. Q. Is that calculation amongst the documents which you have produced?—A. No, sir.

7845. Q. Can you produce it?—A. That is the calculation. (Paper handed to court.)

7846. Q. So that that statement, of course, will show the amount of water in the double boiler?—A. Yes, it gives all the water there was on board.

7847. Q. Can you say how much of that water was fresh and how much salt?—A. Yes, it is shown in that paper. I understand that a good deal of fresh water is usually carried, as it is found that it is required, and that in cases where a great amount of cargo is not available, salt water ballast tanks are filled, but not if a large quantity of cargo is obtained.

7848. Q. So that on this occasion the deep water ballast tank was being used for cargo?—A. Yes.

Witness discharged.

LORD MERSEY.—I understand that with the exception of the statement which is to come from the divers, the whole of the evidence is in.

Mr. NEWCOMBE.—I think so, my Lord.

LORD MERSEY.—I know you understood so, didn't you, Mr. Newcombe?

Mr. NEWCOMBE.—Yes, my Lord.

LORD MERSEY.—And you, Mr. Haight?

Mr. HAIGHT.—Yes, my Lord.

LORD MERSEY.—And you, Mr. Aspinall?

Mr. ASPINALL.—Yes, my Lord.

LORD MERSEY.—And you, too, Mr. Gibsone?

Mr. GIBSONE.—Yes, my Lord.

LORD MERSEY.—Very well, then, we have arrived at a stage when we may congratulate ourselves a little. Now, I am going to utilize the remainder of the afternoon by asking Mr. Gibsone to be good enough to say what he desires to say. I told him that he would not be called upon till later, but he is doubtless prepared to go on; therefore we will hear now from Mr. Gibsone.

Mr. GEORGE F. GIBSONE, K.C.: The first thing I should say is that any remarks that we may venture to address to your Lordships on behalf of the Union are not critical and are not directed against any of the parties to the case. Even supposing all our suppositions are well founded—which we believe they are—they would not impute any blame whatsoever to the Canadian Pacific Railway Company, the owners of the *Empress*, or to the steamship *Storstad*. I should say, of course, that these remarks cannot apply to the *Storstad*, which is a foreign ship. The second thing I should say is that these suggestions are not new; they have been many times before urged by the Union, and if we are here before your Lordships on this occasion it is just to take advantage of a prominent occasion on which these suggestions can be submitted to a tribunal which is considering matters of the kind.

The National Sailors' and Firemen's Union consists of about 90,000 members, and probably 95 per cent—certainly between 90 per cent and 95 per cent of the sailors and firemen work on board ships belonging to the Union, and now respectfully make these suggestions to your Lordships. The Union constitutes itself the guardian of the good reputation of its members generally. Shortly after this accident happened, numerous reports appeared in papers alleging misconduct, cowardice and neglect of duty on the

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part probably of seamen, firemen and members of the crew of the *Empress*. I am glad to say—and I think your Lordship gave us the testimony earlier in the case—that nothing whatsoever in that direction has been made out. So far as that is concerned, our duty ended very early in this investigation.

By way of explanation, I may say also that when first we came into the case, we were not aware that the Canadian Pacific Railway Company had been so fair-minded and well-intentioned towards the crew of their boat as to designate counsel to look after their interests, and it is quite probable that if we had known that in advance, we ourselves would not have put in an appearance. My learned friends, Mr. Geoffrion and Mr. Thompson, have been considerate enough to allow that side of the case to be attended to more by us than by them, although they really were not bound to give way to us, as they very courteously and considerately did.

The considerations which we offer to Your Lordships are these. In the first place, we say that there were not enough able-bodied seamen on the *Empress*. I am willing to admit, and I myself believe, that the *Empress* complied in all respects with the Board of Trade rules, and all that we can ask from Your Lordships is, perhaps, a recommendation that these questions should be favourably considered by the Board of Trade when amending their rules in future. With regard to the number of able-bodied seamen, we ask attention to the fact that it has been proved that there were only 19 on board the *Empress* at the time of the accident. There were more seamen than that, but they were ordinary seamen, and the Union makes a distinction between able-bodied seamen and ordinary seamen. The *Empress* had on board 42 boats, and there were altogether 19 able-bodied seamen, presumably to look after those boats. Of course, it is quite true that there were firemen on board and there were stewards on board, but firemen and stewards, it is contended by the Union and has been contended by them for many years, are not primarily qualified or trained for boat work. What the Union has been asking for years and trying to persuade the owners' associations to accept is that the number of able-bodied seamen upon passenger ships should number two per boat.

Chief Justice McLEOD.—Do I understand you to say that there were 42 boats on this steamer?

Mr. GIBSONE.—Yes, my Lord, 42 altogether.

Chief Justice McLEOD.—Then your suggestion is that there should be 84 able-bodied seamen?

Mr. GIBSONE.—Yes, that is what we contend. There were 16 boats under davits on the boat deck, with 16 collapsibles, and then there were ten other boats, two of them under davits and eight of them collapsible.

LORD MERSEY.—Do you suggest that there should be 80 odd able-bodied seamen in place of the 19 whom you say were there?

Mr. GIBSONE.—Those are my instructions, my Lord.

LORD MERSEY.—Suppose that were done; would you then decrease the number of ordinary seamen?

Mr. GIBSONE.—Yes.

LORD MERSEY.—Then your suggestion is not that there should be an additional number in the crew, but that the qualifications of the crew should be different?

Mr. GIBSONE.—Yes, my Lord.

LORD MERSEY.—Are you sure that is what you mean?

Mr. GIBSONE.—I mean that, and I also mean that the crew should amount in number to two men per boat carried on passenger ships. I do not think that it is necessary for me to refer to evidence in support of the suggestions now made; the facts are before your Lordships and your Lordships will consider them in dealing with the other features of the case. I think I need not refer to any evidence that was

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offered, with one exception, and that is that out of the 42 boats that were on the *Empress* at the time of this accident, whether from the suddenness of the emergency or from other causes, it is known to be a fact that only three boats and one collapsible boat got away from the ship.

LORD MERSEY.—Of course, you do not forget, Mr. Gibsone, that one-half of these boats became useless by reason of their being on the port side.

Mr. GIBSONE.—No, I do not forget that, my Lord, but on the other hand, perhaps it might be said that all the crew that might have been directed to the port boats were free to attend to the starboard boats, and even in spite of that fact only three boats were got away.

The next point which my instructions are to submit to your Lordships, and it is very closely allied to the first one, is that boat drill, as carried on on board passenger ships now, is not effective. Boat drill consists just now of a full dress parade. The sailors, the stewards, and firemen, are all dressed in blue and turned up and stand by their boats, and as the captain passes by, the boats are swung out on the davits, and two boats are lowered into the water. It might quite well be—although of course I can only suggest it—

LORD MERSEY.—This is the boat drill in port that you are speaking of?

Mr. GIBSONE.—Yes, my Lord, it is the only boat drill I think that is carried on.

LORD MERSEY.—There is no boat parade, or whatever you call it, when the boat is at sea?

Mr. GIBSONE.—No, my Lord, this is what is carried on in port, and I don't know of any boat drill being carried on at sea. I have received no information about it, and I don't think there is any evidence in the record about it.

LORD MERSEY.—There is none, Mr. Gibsone.

Mr. GIBSONE.—I was going on to say that it might quite well be, and possibly would not be surprising from a human standpoint, if the two boats that were lowered were always the same two boats, and if the crew that were told off to lower the boats that were going to be lowered for the inspection were a picked crew.

Be that as it may, what the Union has been asking for is that boat drill should consist of a working dress parade, where the men can work about the boats without fear of spoiling their clothing, and that the drill should consist in putting all the boats into the water and not merely putting in two. In that way, all the men on board the ship, be they stokers, stewards, or seamen, would have the practice and experience of actually manning their boats and lowering them into the water.

The other point is a request on the part of the firemen of the ship that ships should be provided with floats or rafts, that is something floating, some floats or rafts. What the firemen feel is that with ships provided only with boats they are at a considerable disadvantage in case of accident, because they remain in the stokehold until the last moment. They are down there on duty. By the time they come up the presumption is that the boats have been lowered and have got away from the ship. I do not wish to exaggerate at all as to what would happen, and I will only say that presumably the boats would have got away from the ship, and then if the ship founders the firemen have to swim for it; because many ships now are not provided with rafts or floats of any kind. What the firemen particularly ask for is that boats should be provided with some kind of floats or rafts which would float away as the ship founders, if she does found.

These are the only points we wish to submit to your Lordships and to ask you, if you think well of them, to report favourably upon the changing of the rules in such a way that ships should be provided as we suggest. These are all the remarks I have to make to your Lordships.

LORD MERSEY.—We are much obliged to you, Mr. Gibsone.

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Now, I propose to rise until to-morrow at two o'clock, and then we shall hear what Mr. Aspinall has to say.

MR. HAIGHT.—My Lord, may I ask that from now until two o'clock to-morrow the Exhibits be placed somewhere so that there will be free access to them by both sides?

LORD MERSEY.—Don't you think they had better be here, Mr. Haight?

MR. HAIGHT.—I am afraid the guardian of the Exhibits would not like to stay here all night while we are working at them. But if there could be some room in the Chateau, I don't care where, under some guardianship, so that we could both get at them.

LORD MERSEY.—I might put them in my room.

MR. HAIGHT.—No, my Lord, I would not trouble your Lordship in that way, but possibly we might, just for overnight, have a room, not an elaborate one, but one to which both sides could have access, and where the Exhibits might remain under key, each side having a key.

LORD MERSEY.—What do you say, Mr. Newcombe.

MR. NEWCOMBE.—I have no objection, my Lord.

LORD MERSEY.—Do you object, Mr. Aspinall?

MR. ASPINALL.—No, my Lord.

LORD MERSEY.—Will you use the key much, Mr. Aspinall?

MR. ASPINALL.—No, my Lord.

MR. HAIGHT.—Then I will take them all to my room if no one else wants them. I would particularly like to have the charts.

LORD MERSEY.—I am just informed by my colleague, Sir Adolphe Routhier, that it would be possible to have a room in this building.

MR. HAIGHT.—Could we get to it in the evening?

SIR ADOLPHE ROUTHIER.—If you apply to the Sheriff for a room and for some one to take charge of them, I am sure that he will accommodate you in that way.

MR. HAIGHT.—My Lord, I have just been informed that the building is open all night, and that there are caretakers here, so it will suit me perfectly well to have the Exhibits left in this building.

LORD MERSEY.—Very well. Then we will rise until two o'clock to-morrow afternoon.

TENTH DAY.

QUEBEC, Friday, June 26, 1914.

The Commissioners appointed by the Honourable John Douglas Hazen, the Minister of Marine and Fisheries of Canada, under Part X of the Canada Shipping Act as amended, to enquire into a casualty to the British Steamship *Empress of Ireland*, in which the said steamship, belonging to the Canadian Pacific Railway Company, was sunk in collision with the Norwegian Steamship *Storstad*, in the River St. Lawrence, on the morning of Friday, the 29th day of May, 1914, met at Quebec this morning the Twenty-sixth day of June, 1914.

LORD MERSEY.—Now, Mr. Duclos, Mr. Haight is not here at the moment, and I am told that Mr. Griffin is not here. Do you think it matters? Do you wish us to wait until they arrive?

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Mr. DUCLOS.—No, my Lord, I think they will have no objection to your beginning. I think they will be here in the next few minutes.

LORD MERSEY.—Well, at any rate, there will be a report of what is said, and Mr. Haigh will see it, so I think I may go on.

Mr. DUCLOS.—Yes, my Lord.

LORD MERSEY.—Now, Mr. Aspinall.

SPEECH OF Mr. ASPINALL, K.C.

Mr. ASPINALL.—If your Lordships please, it now becomes my duty to address your Lordships on behalf of the Canadian Pacific Railway Company, and I propose to divide my address into the six following topics or heads. namely:

1. To consider whether on leaving Quebec on May 28th, the *Empress of Ireland* was in an efficient seaworthy condition and properly provided with life-saving appliances;

2. To consider whether she was sufficiently and efficiently officered and manned;

3. To consider whether the Canadian Pacific Railway Company had taken adequate measures to ensure proper and sufficient boat and water-tight door drills being held;

4. To discuss the question as to who was to blame for the collision;

5. To consider whether after the collision the master and crew, including the Marconi operators of the *Empress*, took all measures within their power to save life;

6. To discuss the question, what was the cause of the *Empress* sinking so quickly.

My Lords, the fourth question, then, as to who was to blame for the collision, is one that will take some time. The other questions or heads, into which I propose to divide my address, will be comparatively short.

Chief Justice McLEOD.—What was the sixth?

Mr. ASPINALL.—To consider and discuss what was the cause of the *Empress* sinking so quickly.

Now, my Lords, with regard to the first question, as to what was the condition of the *Empress* on leaving Quebec, whether she was in an efficient and seaworthy condition and properly provided with life-saving appliances, I desire at the outset to remind your Lordships that in an early stage of these proceedings, Mr. Newcombe said, on behalf of the Canadian Government, that he had no complaints to make with regard to these two matters. The way that arose was this: it is on page 18 of the first day's evidence—and I would like to remark, my Lord, that wherever it is necessary for me to refer to the evidence, I propose to refer to the page and to the day, in order that if hereafter your Lordships might derive any benefit from my remarks, your Lordships will be able to turn up the reference in consequence of my saying the day on which the evidence is given and the page where it is to be found. The incident which I am discussing arose thus: Lord Mersey said to Mr. Newcombe: "Are you instructed to make any complaint at all as to the construction, condition or equipment of the *Empress of Ireland*?" and then the discussion went on in this way:

'Mr. NEWCOMBE.—No, my Lord, I have no such instructions.

LORD MERSEY.—Then if you are not going to make any complaint I do not think it is necessary that you should deal with these matters in detail.

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Mr. NEWCOMBE.—Very well, my Lord. Then that brings me to the question of witnesses.'

Now it is essential, in the interests of the Canadian Pacific Railway Company, that I should deal at a little more length with regard to these matters.

Now this ship, as your Lordships have heard, was built for the Canadian Pacific Railway Company by the Fairfield Shipbuilding Company, a firm of the greatest eminence; and it was built under the supervision of Lloyds' surveyors, and under the supervision of the Board of Trade surveyors. And as I understand it, the practice that obtained was this: during the course of construction the Board of Trade surveyors are on the spot, watching, as they should, the ship as it grows, and if they, as the ship is being built, are of opinion that there is any failure or defect which requires alteration or addition, they bring it to the notice of the shipbuilder, the matter is discussed, and effect is given to the recommendations of the Board of Trade. That was the practice that obtained in the present case, and after the ship was completed, as we know, the Board of Trade gave the ship their certificate as a passenger ship.

That passenger certificate continued in existence year by year, and at the time when this vessel was unfortunately lost there was in existence such a certificate; and according to the terms of that certificate the Board of Trade surveyors declare that having completed their inspection shortly before, some few months before the date of this disaster, they state that the hull and machinery were sufficient for the service intended, and in good condition, that the boats, life-saving appliances, lights, signals, safety appliances, fire-hose, are such and in such condition, as are required by the Merchants' Shipping Act. It is unnecessary that I should weary your Lordships further with regard to that matter.

In addition to that, there was also the emigration survey, which, according to the evidence, was a survey shortly before the vessel left Liverpool on her outward voyage before she arrived in Quebec. According to that emigration survey, the emigration officer was perfectly satisfied with everything he found on board the vessel. My Lords, the next point—dealing with the same topic, but dealing with the evidence that has been given,—it is to be remembered that in addition to the character given to this vessel by these surveyors, we also have the evidence of Mr. Staunton, which is put in on the fourth day at page 754.

At page 754, Mr. Staunton tells us this. He was examined by myself, and I asked him:

"Q. What position do you hold?—A. I am superintendent of life-saving appliances, also marine superintendent in the employ of the Canadian Pacific Railway.

Q. What is your duty in regard to the life-saving appliances?—A. To examine all the boats, test the men in rowing, examine the doors, fire-hose, life-buoys, life-belts, and all life-saving appliances.

Q. When did you last perform these duties?—A. On the 23rd of May, the day after the *Empress of Ireland* came in.

Q. She was then where?—A. She was then in Quebec.

Q. And did you inspect her thoroughly?—A. I did.

Q. For the purpose of seeing that all those matters were in good order and condition?—A. I did.

Q. Were they all in good order and condition?—A. Everything was in good condition.

That is Mr. Staunton's evidence with regard to this matter. Mr. Newcombe very properly saw fit to some extent to sift that evidence; he did so, but the result of it was merely that the evidence was given in a little more detail and it was entirely a corroboration of what Mr. Staunton had already said.

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Now, my Lord, I submit that that evidence is quite sufficient to justify me in asking your Lordships to come to the conclusion that on leaving Quebec on the day in question the *Empress of Ireland* was then in an efficient and seaworthy condition, and properly provided with life-saving appliances. My Lords, in making that remark, I do not leave out of consideration the fact that an attack has been made, by Mr. Haight, upon the steam-steering gear of this vessel, but I think it would be more proper if I should deal with that matter when I come to deal with the collision, as it will save me dealing with it twice. My Lords, I now pass away from topic No. 1, and I come to topic No. 2, namely, was this vessel sufficiently and efficiently officered and manned?

My Lords, with regard to that, I find on page 5 of the survey this: that the certificates of the master, mates, and engineers, are such as are required by the Merchant Shipping Acts. So that, so far as the certificates are concerned, we have got the necessary certificates for the officers, to whom this ship had been entrusted.

Captain Kendall told us that he himself held an extra master's certificate, that there were six other officers with him, and four of these gentlemen held master's certificates, and four mate's, and throughout the course of this inquiry no suggestion has been made in any way affecting their efficiency.

LORD MERSEY.—Have you the reference to Captain Kendall's evidence, Mr. Aspinall?

MR. ASPINALL.—Yes, my Lord, pages 49 and 50 of the first day.

Now, my Lord, Mr. Gibsone, for whom I have the greatest respect, is evidently not a good mathematician, because he made a complaint that there were only nineteen A.B.'s on board this vessel. My Lord, we have done the addition, and I think he will be satisfied that if he adds it up again he will find there were twenty-four A.B.'s on board this vessel.

LORD MERSEY.—Is that so, Mr. Gibsone? Is it a fact that instead of 19 there are 24?

MR. GIBSONE.—I think it is 19, my Lord. I counted them myself on the document that was produced, and my clients who are here have counted them also, but leaving aside my own count, the count of my clients shows that the number was 18, and the 19th I think is the boatswain's cook, or something like that.

MR. ASPINALL.—Well, of course the document will speak for itself, and your Lordships will no doubt look at the document in view of the fact that Mr. Gibsone and I, on this topic, and I am glad to say on this topic only, are not in agreement.

Chief Justice McLEOD.—Which document is that, Mr. Aspinall?

MR. ASPINALL.—The crew-list, my Lord.

Now, my Lords, in addition to the number of A.B.'s, be they eighteen or nineteen or twenty-four, the evidence is that there were four quartermasters on board this vessel. So much for the deck department.

Now, with regard to the engineering department, in the evidence of the third day, at page 537, we have the evidence of Mr. Sampson, who was chief engineer, and what he tells us with regard to the engineering department is this: near the bottom of page 537:—

'Q. Now, will you tell us what the full engineering staff on the *Empress of Ireland* is, so that we will have it before the court?—A. 18 officers all told, that is 15 engineers, two electricians, and myself as chief.

'Q. And what additional help have you in the engine room besides the officers?—A. Well, we have altogether 135 all told, that is divided into donkeymen, storekeepers, greasers—I think there are 18 greasers, six leading firemen, and the remainder are divided between firemen and trimmers. The total is 135,

'Q. Now of all the engineers you have on that ship what proportion of

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them hold first-class certificates?—A. Eleven.

‘Q. Can you state to the court the nature of the equipment in the engine-room?—A. I should say first-class order throughout.

‘Q. Now as to the steering gear in what condition did you find that?—A. Perfect order.’

So that is the state of the evidence with regard to the number and character of the officers and men in that department. My Lord, that disposes of question No. 2.

‘Question No. 3, whether the Canadian Pacific Railway Company had taken adequate measures to ensure proper and sufficient boat and watertight door drills being held—the way that stands is this—Mr. Staunton, on the fourth day, told us at pages 755 and 756:—

‘Q. Do you know of any boat drills before the vessel left the dock?—A. I had boat drill and had three boats in the water. I left two boats in the water; their seamen were practising pulling while the ship was alongside at Quebec.’

Your Lordships will notice that the question is with regard to boat drills before the vessel left the dock. I am emphasizing the word ‘before’ because I want to deal with what was done before she went to sea and after. Then we turn over to page 756, and find the following:—

‘Q. Had you anything to do with the bulkheads?—A. I saw all the watertight doors shut.

‘Q. Was there any experiment of sounding a call unexpectedly to have these doors closed?—A. Whether the captain told them they were going to be closed or not, I don’t know. I came down to the ship about half-past eleven.

‘Q. What happened?—A. Swung out all the boats; lowered three in the water. I couldn’t put out any more, because there were cargo lighters, and they were coaling. After that I closed the doors; I do not think the men knew that they were going to close them.

Q. Do you know how long it took to close the doors?—A. It took about thirty seconds in the engine-room and from three and a half to four minutes on deck.’

I wish to pause there, a moment, to remind your Lordships that Mr. Hillhouse said it took in his opinion about five minutes. Then the evidence of Mr. Staunton goes on thus:

Q. Were these operations carried out simultaneously, the closing of all the doors?—A. I went around myself.

Q. Did you take the time on each door?—A. No, that was the whole lot, when everyone was closed.

Q. That is, in three or four minutes they were all closed?—A. They were all closed.

And I think there, so far as his evidence is concerned, that incident ends.

Then, my Lord, Captain Kendall, the first day, at page 164, tell us: that in the book to which reference has been made, there was a provision that the Captain, accompanied by the doctor, purser, and chief steward, (and in the engine-room by the chief engineer) will, unless weather conditions render it impracticable, or unless the ships is in narrow waters, when the Chief Officer will act as Deputy, hold a complete inspection of all parts of the ship each day, at ten thirty a.m. During the inspection, all members of the crew detailed for water-tight doors will be at stations, and all doors will be opened and closed. Notices must be posted in the passengers’ quarters to this effect, with a request that complaints be made to the commander. The

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chief steward will daily visit every state-room, whether occupied or not. And then Captain Kendall says that it is the practice which obtained on board his ship. Then Mr. Gaade, the chief steward, on the seventh day, at page 1367 was asked the following questions by the learned Chief Justice:

Q. You are the chief steward?—A. Yes.

Q. Did you hear any orders given to close the water-tight doors?—A. I heard the siren blow a long blast.

Q. What is the significance of that to the crew?—A. There is a notice which has been printed and posted up in each pantry, stating that at a long blast of the siren the men shall attend the bulkhead doors and close them; immediately they go to their boats. The rest of the men go right straight to their boats.

Q. Are there any men specifically delegated to close the bulkhead doors?—

A. There are, sir; there is a list made out and posted up on a notice-board in the pantry, so that every man can see it.

May I interpose there the remark, your Lordships, that it is not merely that a notice is posted so that the men can see it, but each day this drill is held. So quite apart from the notice, the men in fact must get a knowledge of what their particular water-tight door is.

Then the learned Chief Justice goes on thus:—

“Q. I suppose the men do not always read these notices. Are any instructions given to the men that it shall be the business of certain men to close certain doors?—A. The men are told off for every door, and every morning at a quarter to eleven the doors are inspected by the captain, the purser, the doctor, the chief officer, and myself, and the steward who is in charge of the second-class goes with us, until we finish with his doors, and the steward from the third-class goes with us until his doors are closed.

Q. Was this inspection made on the morning of the 28th?—A. On the morning of the 28th the inspection was made, sir.

Q. And you say that when this siren blows, each man knows what door to go to?—A. Yes, sir, and they have certain signals. Of course, the doors are not closed on an ordinary inspection; they are not all closed at once, they are closed as we go around. For instance, there is a man works from the top and the man below gives the signal; he gives two signals to close the door and he gives three signals to open the door, and he gives four signals to denote that the door is finished with. That is only to see that the doors are in working order. In case of a door being stiff or anyways hard at all the captain immediately tells the officers to get the carpenter and see that the door is made to run all right.

Q. You say the doors are closed from where?—A. From the deck above.

Q. In all cases?—A. In all cases.

Q. And is there a man there? There must be some machinery to be operated?—A. It is turned by handles.

Q. Who is there to handle them?—A. The man on top; the man gives the signals below to the man who is standing by to turn the door and shut or open it, whichever the case may be.”

I do not think that there is more of this gentleman's evidence which adds anything to what I have already read, although there is more of it dealing with this subject.

Now, my Lord, that again was dealing with the practice. Now I will refer your Lordships to the evidence of Harrison, taken on the eighth day at page 1396. He was a second-class bedroom steward, and he tells us what he did, and he tells us why he did it. In his evidence, page 1396, he is asked:—

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‘Q. Do you know anything about any doors having been closed at that time?
—A. When I heard the crash I heard the siren blow, and I knew it meant to close the bulkhead doors, and I went right around to my door. I was unable to close it because there was too much water there.

Q. On what deck is that?—A. On the upper deck.

And then at page 1400, he was asked certain questions by me, with regard to this matter no it commences at page 1399, where I asked him:

Q. Mr. Harrison, as soon as you felt the crash, what did you do? Did you rush up at once?—A. I first put on a little clothing and rushed right down to my door.

‘Q. You wasted no time?—A. Not a minute.’

‘Q. Your first thought was of your door?—A. Yes.’

‘Q. That was your duty?—A. Yes, sir.’

‘Q. How did you know that this was your first duty?—A. I heard the siren blow.’

‘Q. The siren gave you the order, so to speak, and away you went at once to your door? That is what all the other stewards ought to have done if they did their duty as you did?—A. Those are the orders, sir.

‘Q. And having gone up and having done your best you couldn’t work it?
—A. No.’

My Lord, I submit that that evidence entitles me to ask your Lordship to come to the conclusion that, so far as they could, the Canadian Pacific Railway Company had insisted upon the staff doing their best under all circumstances to close those doors. They got a good system and they did their best to see that their system was carried out.

My Lord, the next topic I shall take up is whether after the collision the master and crew, including the Marconi operators of the *Empress*, took all measures within their power to save life.

LORD MERSEY.—Is this your topic No. 4?

MR. ASPINALL.—No, my Lord, it is No. 5. I am omitting No. 4 at the moment, because I thought it was a matter which would take some time, and might extend to a considerable length, so I thought I would dispose of No. 5 before taking it up. The scheme I had in my head, in suggesting these topics, was this: I was considering what duty the shipowner owes to the public, and I considered it was his duty to provide as far as knowledge of shipbuilding went at the time the ship was built, a good and efficient ship; that it was his duty to see that she was properly manned; that it was his duty, so far as the shore department is concerned, to see that proper arrangements were made for shutting the water-tight doors, and also it was the duty of the crew, after the ship is in their possession and control, to carefully and properly navigate her; that in the event of disaster, it is their duty to do all they reasonably can to save life. That is what I had in my head as being the duties of the shipowner to the public. However, as I said, I am leaving the collision until after I have dealt with what I may call the more formal matters, which I shall deal with shortly.

Now, with regard to this question, whether after the collision all measures were taken to save life—my Lord, in that connection it is noticeable that no passengers have come forward suggesting that there was any dereliction of duty on the part of the officers or men. Among the passengers who have been called, some for one purpose, and some for another, all those to whom any such questions have been put have praised what the officers and men did. There is no suggestion here on either side, either with regard to the men and officers of the *Storstad* or the men and officers of the *Empress of Ireland*, that there was any failure of duty in regard to the saving of life. I am not here to suggest that there was no confusion. Of course, there was

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some confusion. One would not believe it if anyone had said that there was no confusion, but my point is that there was no panic on the part of the master, officers, or men, of the *Empress of Ireland*. Your Lordships may remember the man Carroll, and I am going to take his conduct as an exemplification of how some of these people stuck to their work to the end. He was the gentleman who was in the crow's nest. He keeps the lookout and his only duty is apparently to look out on the ocean and occasionally strike a bell. Not a very high standard of work, but that man apparently remained up in the crow's nest until this ship had listed over, and then by means of some gymnastic feat he was able to get away and luckily to save his life.

LORD MERSEY.—Will you kindly give us the reference to Carroll's evidence?

Mr. ASPINALL.—I am sorry my Lord that I cannot give the reference at the moment, but my learned friend, Mr. Holden, will look it up and give it to your Lordship.

Again, my Lord, as an illustration of the point I am making, let us look at the engine room department. The evidence of the men from the engine room department extends over many pages, and perhaps your Lordships will remember that those men, down in the bowels of the ship, only conscious of the crash, and some of them conscious of there being this great inrush of water, which probably at any moment might send that ship to the bottom of the sea, remained apparently to the very last down there, knowing nothing more than that, until it was evident that nothing more could be done with the engines, and they received the order from the chief engineer to save their lives.

My Lords, in this connection I wish to pay a special tribute to these two young men, the Marconi operators. They are not seamen, but they, without any thought of self, stuck to their job, working to the very last, and it was only when they could do no more that they thought of saving their own lives.

One other matter in this connection. Mr. Jones tells us what was done with regard to the boats. Mr. Jones was the first officer on the bridge with the master, and at pages 335 to 339 he tells us that he did his best, with the aid of those under him, to get away the boats on the starboard side; and apparently the result of their efforts was this, that four steel lifeboats reached the water and floated, also some of the Englehar's; that another steel lifeboat reached the water and that it was full of people, but most unhappily, as the *Empress of Ireland* listed over, to the starboard, and as her funnels struck the water, this boat was in the way of the funnels or some other wreckage, and apparently was lost, and for all we know every soul in her went to the bottom.

I submit that without wearying your Lordships with further details about this, it is clearly established by the testimony given in this case that the master, the officers and the men of the *Empress*, after this disaster had happened, did all they could to assist those unhappy people in saving their lives.

My Lords, I am told by Mr. Holden that the reference to Carroll's evidence is to be found at page 400 of the evidence taken on the second day.

Now, my Lords, so much for these topics, and I hope I have done no injustice to my clients' cause by dealing with them somewhat shortly. It seemed to me unnecessary to deal with them at great length.

Now the next topic which I shall take up, and it will take me naturally a little more time to discuss that, is who was to blame for this collision?

LORD MERSEY.—That is your topic No. 4?

Mr. ASPINALL.—Yes, my Lord. I wish to say at the outset that it is a very remarkable fact that the story which we disclosed by our pleading, or call it what you will, the document I had drawn up, and which was spoken to by Captain Kendall in the early stages of this case—that has in its main features been established by the evidence and by the admissions that have been made by the crew of the *Storstad* from day to

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day during the progress of this inquiry. The meaning of that observation, my Lords, is this: we were claiming, without knowing what the other side were going to say, that this collision was caused, as I now contend, by the alteration of course on the part of one or other of these ships; and we were saying that what caused this collision was a porting and a hard a-porting of the helm on the part of the other vessel. And it is remarkable that, we having from the outset pinned ourselves to that case, that as this case has been developed, and as the evidence of the *Storstad's* people has been sifted, that it is now established beyond all doubt that the helm of the *Storstad* was ported, and was hard a-ported, and, singularly enough, was hard a-ported without any orders to that effect being given by the navigating officer of the *Storstad*. My Lords, that is the particular feature of this case which I submit is of immense value to the tribunal in determining where the truth of this story lies.

Another point, which is a singular corroboration of the story that we told from the first, is this: we were claiming, and still claim, that the *Storstad*, with steerage way on her, ported into us. That was one point that I have dealt with, and later on I must deal with it in greater detail. The second point that we were claiming was that we had lost our way, that we were, so to speak, a log upon the water, without steerage-way, and that we never did starboard our helm. And we were saying that we twice blew three short blasts. Again, it is most remarkable that the *Storstad* admits that she heard us twice blow three short blasts, and the first of these three short blasts rang out several minutes before this collision happened.

Now, if these two sets of three signals were being given, three short blasts on two occasions, it means only one thing, that Captain Kendall was operating with his engines in the way in which these signals were proper signals. He was not doing that for fun, he was doing it for a reason. He was telling the other ship, in the language of whistles, I am reversing my engines, and they admit that they heard it. Now, my Lords, that I submit is a fact which is almost conclusive in entitling me to ask your Lordships to come to the conclusion that when this collision happened the *Empress* was practically a log upon the water, without steerage way upon her. And what I am pointing out and seeking to emphasize is this, that that is the story to which we pinned ourselves from the first, and we have this remarkable corroboration in the testimony given by the other side.

My Lords, one other particular feature of the case is this: in order that the *Storstad* should succeed against us, she will have to ask your Lordships to come to the conclusion that the cause of this collision was not the porting on the part of the *Storstad* but the starboarding on the part of the *Empress*. Now, as I pointed out, she admits that she ported, she admitted that she hard a-ported, and she admits that the hard a-porting was done without the orders of the navigating officer. She says, and I will deal with that later on, that she did not alter her course. I think I shall be in a position to demonstrate quite clearly that that is not the fact.

As against us, if she is to succeed, your Lordships will have to come to the conclusion that the testimony of Captain Kendall, with regard to this matter, whether he starboarded or not, is a deliberate lie, and a bad lie; it is perjury, because it is a matter about which there can be no mistake. Whether he used his helm at all or whether he put it to starboard is the simplest question of fact that one can conceive. I do not ask your Lordships—it is not essential to my case—to come to that conclusion with regard to the *Storstad*. She admits doing that which would fit with an alteration of the course. One can well understand the frame of mind on the part of the Norwegians in saying this: we ported, but it didn't have any effect. That is quite a different thing, my Lords, from a man saying: I never ported. It is quite a different thing from saying I never starboarded. And if Captain Kendall in fact starboarded, then his testimony must be false, and we are speaking of the testimony of a man who very shortly before this testimony is given has looked death in the face under very distressing circumstances, a man who has lost his ship, his shipmates, and a very large

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number of his passengers. And I submit, your Lordships will be slow to come to the conclusion that the affirmative testimony that man has given was a deliberate lie with regard to this matter.

Well now, these are the particular features of this case. I now proceed to deal more specifically with the evidence, bearing in mind, as I ask your Lordships to do, that the two points here are alteration of helm and speed; and bearing this also in mind that the two things are very closely connected, because if a ship has no way upon her, the power of the helm becomes inoperative. The two matters are closely connected, but these are the two questions of fact, and it seems to me the only two material questions of fact that are essential to be considered in this case.

My Lord, a question has been raised as to whether or not Article 19 of the Regulations applies, and it is well that I should deal with that, my submission being that it undoubtedly has nothing to do with this case. Articles 19 and 22 of the Regulations are the two pertinent articles of the Regulations for preventing collisions at sea. Article 19 is as follows:

“When two steam vessels are crossing so as to involve risk of collision, the vessel which has the other on her starboard side shall keep out of the way of the other.”

And Article 22 is as follows:

“Every vessel which is directed by these rules to keep out of the way of another vessel shall, if the circumstances of the case admit, avoid crossing ahead of the other.”

Now the condition precedent is that they must be crossing so as to involve risk of collision. Now, in an early stage of the case, I asked Mr. Toftenes, the officer in charge of the *Storstad*, his views with regard to the applicability of these articles. I pointed out to him the distance there was between these two vessels, and I pointed out the fact that either in his view, namely, that after our course was altered, we being red to red, or, according to our view, we being green to green, and asked him did he suggest that there was risk of collision, and he agreed with me that there was none. That is to be found at page 233 of the second day. I said to him:

“Therefore it seems absolutely immaterial to further trouble with that article, and I may pass away from it.”

LORD MERSEY.—I am afraid your paging is not the same as mine?

MR. ASPINALL.—Well, your Lordship, I have noticed a few, but a very few, inaccuracies in this print. What I am referring to is found in the early pages of the second day, and in my volume on page 233.

At any rate, my Lords, that seems to have been Mr. Toftenes' view, and I submit rightly so, because, according to the evidence, these ships, be they red to red or green to green, got in that position when they were quite far apart, when the intervening distance was a distance of some miles, and there was no risk of collision between them at all, and after that they proceeded on, and but for an alteration of heading on the part of one or the other, there would have been a safe passing, either green to green or red to red, between the two. Therefore, my submission is that article 19 of the regulations for preventing collisions at sea has nothing to do with the collision in the present case. My submission is that that may be left out of the case.

Then again, getting rid of the smaller points, the points which it is necessary to discuss, I wish to remind your Lordships of what was happening on board my steamer from the time I started away from Quebec, and that quite generally. We were proceeding down the river, and according to our evidence, on three occasions we met with fog, the last occasion being the fatal one. On the two previous occasions, our evidence

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is that we were on each occasion slowed down, and on each occasion blew our whistle. I merely remind your Lordships of these facts in order to show that care was being taken in the navigation of this vessel as she proceeded down the river, and that she was not rushing through fog. As fog arose, she obeyed the Board of Trade regulations, she reduced her speed, and she blew her whistle.

Now having got through these first two fogs, she gets in the neighbourhood of Father Point. There she drops her pilot, and having dropped her pilot she then starts away, her point of departure being about a mile—these distances given on both sides, and the bearings given on both sides are all estimates, in each case there being no cross-bearings to enable either side to fix their position with accuracy, and that of course is the only way of fixing your position with accuracy upon the water. There have been no fourpoint bearings taken, in order to be certain at what distance you are passing the points on the left, so that at the best it is a criticism to which my courses are exposed, just as much as the courses and bearings and positions spoken to by the *Storstad* are exposed. It is a criticism to which we are both exposed, but according to the best of our judgment our case is that when we started away from Father Point we were then about a mile from the point; that we then proceeded out, starting at 1.20 on a course of North 47 East magnetic.

LORD MERSEY.—It would be useful to me if you in this part of the case refer to the page on which the evidence appears, Mr. Aspinall.

MR. ASPINALL.—My Lord, at page 57 of the first day, Captain Kendall proves that fact. At page 60 of the first day Captain Kendall proves the alteration under starboard helm to the North 73 magnetic course.

My Lord, the position of affairs on board our ship at that time was this: we have the Captain, the first officer, the third officer, who was conning the wheel. I believe the expression is, that is, keeping his eye on the helmsman, the quartermaster at the wheel, a stand-by quartermaster, and a small boy to run messages if messages were to be sent. Those are the men who were on the bridge or in its immediate vicinity. Unfortunately, we have saved only three of these six people, namely our Captain, Mr. Jones, the first officer, and the quartermaster, who was not at the wheel. The others unhappily were lost, but that was the complement at the bridge, and under these circumstances they were on this course heading out from land.

After they proceeded a certain distance—it is impossible to be certain what distance—they saw the lights of the *Storstad* coming up. The lights were reported by the man Carroll, the lookout, but about the same time as we would expect, the eyes of those on the bridge saw the lights of the *Storstad*, and she was then kept under observation, and Captain Kendall knows full well that he has to deal with that vessel, and that he has to deal with that vessel, in such a way that he shall safely pass her, and knowing that the ship is there he then proceeds to alter the course, and he alters the course to North 73 East magnetic, and according to his evidence he then gets that ship at a distance of some miles one point on his starboard bow.

Now, may I pause there to elaborate that a little. If neither ship had then altered course, these two vessels would have passed one another safely, starboard to starboard, certainly at least half a mile apart, which is a perfectly safe and proper distance either in foggy weather or clear weather. But be it observed that when he alters his course, and gets on the new course,—it is clear that if it is foggy a safe distance could become an unsafe distance—but even in foggy weather I submit it would be a perfectly proper distance at which to pass this vessel.

My Lord, the position which I am claiming, that is the lateral distance which I am claiming these two vessels would pass, upon the story of Captain Kendall, can be easily established thus: that if you have an object, and for the purpose of my illustration I will assume for a moment that it is a fixed object, if you have a fixed object one point on your bow at a mile away, and you proceed on your course, you will pass that object at a distance of 1,187 feet mathematically, but for all rough purposes it would be 1,200

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feet, or 400 yards. In other words, if I had that clock one point on my starboard bow, one mile away, as I proceeded on, I would leave it on my starboard hand about 400 yards.

Now that also applies if the clock was advanced on what is substantially an opposite and parallel course to my own, and that is the case in this case. The *Storstad* was steering about west of south; we were steering as near as could be, east by north. If the matter was worked out, that position, it would result in its being found that we were a few degrees to the north of east by north, but it is quite immaterial.

Now, the evidence regarding the position where we altered course can be summarized thus: neither Captain Kendall nor Mr. Jones told us—unfortunately they were not asked—but what they did tell us was this, that when the fog shut in, which is a later period, the other vessel was then about a point or a point and a half off on the starboard bow, a distance somewhere in the neighbourhood of three or four miles. That may be an exaggeration in distance, and with respect to sailors, I might say that when they get into the witness box it is my experience they sometimes exaggerate both distances and bearings. To give them every latitude the result is that at this distance that separated the two vessels, when my ship had altered the course, the lateral distance between the two would have been very considerable. Now, that is upon the assumption that the position we claim of green to green is right.

Now, let us consider the position which they claim, namely, red to red. My Lord, at page 925, Mr. Saxe, who was the second officer on the bridge of the *Storstad*, told us that the fog shut us out when we were between two and three miles distant—his distance is somewhat smaller than mine—and at that time we were about a point on his port bow. Well, then again, if the *Storstad's* case be right, that we were approaching red to red, I frankly admit at once it would bring about a perfectly safe lateral distance between the two ships as they passed. So the outcome of this evidence leads to this conclusion, that whether we be green to green or red to red, as your Lordships will decide later, that these two ships were so navigating, and so directing their courses, that there was no running of risk in passing at the lateral distance at which they were passing.

My Lords, in this connection, might I also revert to this, that according to our case when we did put ourselves on that course to bring that other vessel one or one and a half points on our starboard bow, or according to their case, to put ourselves on their port bow, whichever it be, that then it was perfectly clear weather, and of course, as I said before, under such conditions one is entitled to pass very much closer than if one is navigating in a fog.

What happened in this case was this—a matter with which I shall have to deal later—that according to the evidence of Captain Kendall, when the fog was shutting out the lights of the *Storstad*, then he gave the order to go full speed astern, and blew his three short blasts. May I deal with that incident at once?

Certain criticism has been directed as to the probability of that action on the part of Captain Kendall.

My Lords, my answer to that is this: that whether it is probable or not, the *Storstad* admits she heard our first three short blasts, and Captain Kendall said, as one would well expect, 'that is the time I blew my first three short blasts.' If the *Storstad* had been coming here and saying: 'you didn't reverse,' and 'we never heard your three short blasts'—if they had gone on and said that it was highly improbable that we executed any such manœuvre, there would have been something there in their contention. But in view of the fact that they admit they heard the three short blasts, I submit that it is conclusively proved that we were taking the action which Captain Kendall says, and taking the action for which three short blasts is the appropriate signal.

Well now, my Lords, that takes my statement up to this point in this case. I have now got the two ships on the courses, being about opposite and parallel.

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The next point in this case which it is important to ascertain is: Were they approaching red to red or were they approaching green to green? I have already pointed out that if your Lordships come to a conclusion as to which of these two vessels altered course that determines that point. Again, that point is closely associated with helm action and for this reason: I am struck on the starboard bow. I am not careful to put the exact angle as it is immaterial but I simply say: I am struck on the starboard bow. If I did not alter course then that ship must have come into me from having me on an opposite parallel course under port helm and must have been approaching me starboard to starboard. That necessarily follows. If, on the other hand I did alter course and I am hit I can only receive a blow, if the other man does not alter course, by throwing myself across his bows.

LORD MERSEY.—That is, I understand your contention?

Mr. ASPINALL.—That is my contention. But in order to ascertain whether they were red to red or green to green we must seek to find first which of the two ships alters course because that conclusively establishes whether they are approaching green to green or red to red. I do not know whether I make my meaning clear to your lordships?

LORD MERSEY.—Yes.

Mr. ASPINALL.—Now, I know that it is said that they were approaching red to red by the witnesses from the *Storstad*.

LORD MERSEY.—That is immediately before the fog.

Mr. ASPINALL.—That is immediately before the fog. As I have pointed out, in order to arrive at a certain conclusion upon that matter one has to answer this question: Which of these two ships altered course because that supplies the answer to the problem. There is evidence from them to show that they were red to red; there is evidence from us that they were green to green. There is a great deal of evidence from them that they were red to red; in fact, as I shall take occasion to point out later, it is remarkable the number of men on the *Storstad* who apparently were up on deck at the opportune moment to see what they were doing. Some were throwing ashes over the side. They all seemed to have come up for some strange reason—one wonders why—between 12 and 4 in the morning. Capt. Kendall has given us his testimony in regard to this point and it is a specific matter about which he ought not to be mistaken, about which he cannot be mistaken. He tells us, at page 61 on the first day, that he went up to the bridge, just a few steps above the navigation bridge, that he looked at his compass, which is a standard compass, and that he found this vessel bearing away upon his starboard bow. If he did that it is conclusive and if he did not do it he is telling a lie about the matter. It is a matter about which he cannot be mistaken and the outcome of it is that if he did not do it he is telling a lie. If he is right, if he did take the bearing of this other ship it is conclusive of the matter. Your Lordships will be advised whether or not on all these large passenger ships care is taken to use the standard compass from time to time to take the exact bearings of land marks and approaching ships. It is not for me to make any observations in regard to that. Your Lordships have the advantage of the assistance of two distinguished nautical assessors and they will no doubt advise your Lordships of the significance of the matter if what he says he did. If that be true it means that these two ships were approaching green to green.

It will be said as against that—and I am not forgetful of it—that neither Carroll nor Mr. Jones, who was the first officer, saw the green light nor any coloured light of the *Storstad*. If they were putting forward a dishonest story here it is hardly to be conceived that Mr. Jones and Mr. Carroll would have made such a statement. I submit that when you find witnesses coming and saying that which in a sense may be adverse to their ship—admitting it—there is a ring of honesty about the matter.

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Carroll was the gentleman who stuck to his post to the end, having rung his bell I do not suppose that he ever troubled his mind about this ship again and he told your Lordship that he did not see any coloured light. He rang his bell, gave the information to the bridge behind him—there is a ship—and I suppose that he was probably on the lookout for any other light that might come into view. Mr. Jones again says: I did not see a coloured light; but; what he does say is: I did notice that the lights of the advancing *Storstad* were open in such a way as to lead me to the certain conclusion that she had got her starboard side open to me and was approaching me green to green. I submit that this testimony ought to commend itself to your Lordships as being accurate and honest testimony to what was happening in this case. That is the position, I submit, in which these two ships were approaching one another.

In regard to the helm action what happened on board these respective ships? Dealing first with the *Empress*, the *Empress*, as we have been told from a variety of sources, never had her helm star-boarded. Captain Kendall says that the helm never was starboarded and he also says that he visited the upper bridge, that he took a look at the standard compass and that she was then heading N 72 E magnetic. There was one degree, but it is immaterial. What Mr. Haight must say is that is a lie because that is what Captain Kendall knows, and Captain Kendall says that he did look at his standard compass and see what his heading was. He has sworn in the affirmative that he did so. Unfortunately, in regard to this part of the case, owing to the death of the officer who was conning the ship, owing to the death of the helmsman of the *Empress*, we are without the testimony of these two witnesses, but I submit that we can establish our case in regard to this point without their assistance. Mr. Haight, whom we all know is an experienced Admiralty advocate, a gentleman of very great experience in these matters, was asked by your Lordship what good reason he could suggest why this vessel starboarded her helm and Mr. Haight frankly admitted that he could give no I did not see a coloured light; but; what he does say is: I did notice that the lights of explanation. Your Lordship asked me what was my explanation and my explanation was this. I give it now with greater confidence than I gave it in the earlier stages of the case, whether it was probable or not, that those in charge of the *Storstad* did undoubtedly port their helm. Now, of course, we have much more valuable testimony to the effect that the *Storstad* not only ported her helm but hard-a-ported it and that she had good steerage way upon her at the time that the helm was put a-port and hard-a-port. What was the best that Mr. Haight could make out by way of explanation?

At page 143 on the first day your Lordship said to Mr. Haight:

‘Now I want your explanation of the reason why the *Empress* did what Captain Kendall says she never did.

‘Mr. Haight. I can only answer that question, my Lord, by surmising somewhat. I know that on our boat, if all my witnesses are not falsifying in their statements to me, we saw first her green light and then her red light.’

With great respect to Mr. Haight that is not an answer at all, but your Lordship says:

‘But you are not answering my question.

‘Mr. Haight.—I am going to my Lord. My only hypothesis is that the wheel of the *Empress* was ordered ported, as Captain Kendall states, from a course of N. 47 E. he changed to N. 72. That would, on our course and in our position, show us his red light.’ ‘I think at this stage of the testimony there is no foundation for it, but it is my idea that one man, perhaps the second mate, ordered his wheel ported, and that another man subsequently ordered the wheel starboarded.’

It would look very much as if Mr. Haight had in his mind that that was the class of testimony that we were likely going to get on that point from the officers of the *Storstad*, because I am bound to say it came as a great surprise to me that the order

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given by the navigating officer of the *Storstad* was to port and that another officer, without any order put the helm hard-a-port. That seems to be the sort of explanation that Mr. Haight gives as to why the *Empress* starboarded—that one man orders the wheel to port and another man orders it to starboard. It is far-fetched and I will not say any more about it. That is the best that Mr. Haight can do in regard to this matter. Captain Andersen, the Master of the *Storstad* was also asked for his explanation at pages 310 and 311 on the second day. I asked him:

“Q. What the *Empress* apparently did was this: having ported and got you red to red, then for no reason that you can suggest, she starboarded—except possibly she may have starboarded to get farther from the land—but if the man on the bridge of the *Empress* had remembered what he had seen shortly before that, you were on his port bow, that would be a very risky thing to do, wouldn't it?—A. I think so.

Q. I agree with you. Now having done that, what the *Empress* further does is this, if her story be true, she blows two long blasts to tell you she is stopped—your officer didn't hear them—whereas, in fact, she was going ahead. That was a remarkable blunder for her to make wasn't it?—A. I think it was.

Q. I agree. The last blunder, if your story be right, is this: that having some five or six minutes before blown you a three-blast signal, which is later repeated, which would signify she was going astern, yet in fact when she comes in sight she is going 8 to 10 knots. That is an extraordinary blunder to make, isn't it?—A. To my mind it is.”

LORD MERSEY.—What page is that?

Mr. ASPINALL.—Pages 310 and 311 on the second day. I was wondering for some time how it came that Mr. Haight was devoting so much of his time to this attack upon the steering qualities of the *Empress*. In view of the fact that Mr. Haight was unable to give us any explanation of why it was the *Empress* should starboard and in view of the fact that Mr. Haight fully realized that if the *Empress* had starboarded it convicted Capt. Kendall of telling a deliberate lie, it occurred to me that Mr. Haight really thought that his only chance was to attack the steering qualities of the *Empress* and hence this lengthy—and possibly essentially lengthy—attack upon the steering qualities of the *Empress*.

How does that stand? The main gentleman to support that was our friend Mr. Galway. I propose to say very little about Mr. Galway, but it is necessary, in view of the determined attack on the steering qualities of the *Empress* and the attack on the telemotor which has been kept up and which was supported by Mr. Reid, that I should deal with the matter. The way it stands then is this: Mr. Galway, supported by certain officers and men from the other Norwegian ship, the *Alden*, and supported to some extent by the French pilot in charge of the *Alden*, made certain statements with reference to the steering qualities of the *Empress*. Galway had steered the ship some hundreds of times and it is to be remembered that his complaints resolve themselves into three. He told us at pages 604-606, third day, that going up the river she sheered; he told us at pages 614 and 615, that on some previous occasion in the Liverpool river she sheered, and he told us, and this is the material matter, that when she was going down the river the night of this calamity somewhere between ten and twelve o'clock the wheel jammed.

LORD MERSEY.—What page is that?

Mr. ASPINALL.—Page 610.

LORD MERSEY.—You are going back.

Mr. ASPINALL.—I do that for this reason: I am keeping the two sheerings distinct from the jamming. When a vessel sheers what she does is she sheers that way

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or she sheers the other way as the case may be. When the wheel jams it means that when you put your wheel over you cannot get her back. She is running on and if your wheel has been to port or starboard, as the case may be, you cannot get it amidships.

What is the incident to which the *Alden* people spoke? They spoke to the continued sheering away of the ship, beginning, they said, some seven or eight miles away. They said that they could see the *Empress* opening red to red, I think it was, then bringing into view green shutting out the red, and then opening out red again. That phenomenon took place some four, five or six times. What has been said about sheering is one thing but what Galway has spoken of is not sheering but jamming. If it had been jamming instead of these serpentine manœuvres on the part of the vessel, you would have had her running over to the left or the right because you could not have got her wheel back. That is comment number one we have upon the value that is to be attached to the evidence of Galway in regard to jamming, and the value that is to be attached to the evidence of the *Alden* people in regard to the incident of which they spoke. Comment number two in regard to the *Alden*: The *Alden* people were asked about this incident very late in the day and my submission to your Lordships is that it is almost inconceivable that these various witnesses who were called from the *Alden* could actually have any accurate recollection of what was happening on this particular night. As they say, when the ships got a distance of three-quarters of a mile, or a mile, from one another they safely passed port to port without any trouble. My submission is that if one were to ask them whether they could remember any incidents that had happened going up and down the river St. Lawrence, they would say that they were not able to do so. I therefore ask your Lordships to come to the conclusion that this incident is of no value at all.

Galway also said that he had complained afterwards to Murphy and Bernier. Murphy was the man who relieved him at twelve o'clock and Bernier was the pilot in charge of the ship. It is a matter about which Bernier certainly ought to have been informed; he is a pilot and it is certainly a thing to which he naturally would attach very great importance. He is very closely connected with the C.P.R. Company, his own reputation is at stake and if he thought that this wheel was in any way deficient, and information came to him from Galway to that effect, he could not have forgotten it. What does Murphy say? Murphy at page 661 on the third day is asked this:

'Q. Now, Murphy, you heard the last witness—you were in the Court?—

A. Yes.

Q. You heard him.....'

That was Galway.

'....say that he told you something to this effect, to be careful of the ship that she was not steering well—is that true?—A. Never sir.'

Then your Lordship, as President of the Tribunal, asked Mr. Haight whether there was any mention in a letter, which turned out not to be a letter but a communication apparently that Mr. Galway had given to some newspaper press men, in regard to the steering qualities of the *Empress*.

LORD MERSEY.—I said what?

Mr. ASPINALL.—Your Lordship asked Mr. Haight where in the letter, as it was called—it was a statement in a newspaper——

LORD MERSEY.—It was the report of an alleged interview.

Mr. ASPINALL.—Yes. The answer was—in fact it is quite correct—that there is nothing in the interview with regard to the wheel jamming or there being anything wrong with the rudder of the *Empress*.

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LORD MERSEY.—Or the steering of the *Empress*.

Mr. ASPINALL.—Or the steering of the *Empress*—that is what it was; I was inaccurate in saying the rudder. Mr. Haight said:

‘I think not, my Lord.’

And then your Lordship, using a phrase which Galway had used, said:

‘Then the principal asset is left out.’

So it was. Before I leave the *Empress* I should call your Lordships’ attention to page 662 because there Murphy speaks to the incident to which Mr. Haight apparently seemed to attach a good deal of importance. Mr. Haight, cross-examining at page 662, says:

‘Q. I understand, Murphy, you have never had any trouble with the steering gear?—A. Never since I have been on the ship.

Q. You found that it worked with absolute promptness whenever you put the wheel one way or another?’

Now comes the answer to which Mr. Haight seems to attach importance:

‘A. No sir, it might be that it does not catch, and what you have to do is put your wheel back amidships and give it the helm, and it will catch on right away.’

You will also get advice from your assessors in regard to that but I rather think that what the man meant to say was this, that it is not an unusual thing with the best steering gear that sometimes when the wheel is worked a little rapidly the cogs instead of fitting naturally into their places get one in advance and you throw the wheel back and they drop into place.

LORD MERSEY.—We have heard nothing of that.

Mr. ASPINALL.—It is merely an observation of my own and perhaps I should not have made it but the assessors will give your Lordships advice in regard to it. Then Mr. Haight goes on:

‘Q. Sometimes when you first put the wheel over she does not catch on, and then you have to bring her back amidships?—A. That might occur every two years.

Q. It has occurred?—A. Only once since I have been on the ship.

Q. Your sometimes is rather infrequently then?—A. Sir?

Q. Has she ever jammed with you?—A. No sir, never.

Q. Well when was the one occasion, Murphy?—A. Two or three years ago, sir, I am not quite sure, but it is a long time ago.

That is the evidence of Murphy in regard to the Galway incident and that is his evidence in regard to all the trouble that he has ever known in connection with this ship and he has steered her times out of mind. Your Lordships will no doubt, like all cases tried in courts of law, decide this case upon the evidence and not upon theories. Of course, to some extent, the value of evidence can be weighed in the light of theories and probabilities but after all what it comes back to is the evidence and there is the positive evidence of these men.

What does Bernier say about it?—Bernier, page 666. third day, was asked about it and he did not quite understand the question. Your Lordship then put it to him quite directly thus:

‘Q. The question is, did Galway complain to you about the steering gear?—A. No, my Lord, he did not, and if the thing did happen I would have known it right away, because I always watched the tell-tale to see how the wheel is working.’

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LORD MERSEY.—What is the tell-tale?

MR. ASPINALL.—I think that in a modern ship it is an indicator put somewhere which enables the person in charge to at once inform himself——

LORD MERSEY.—Is it a dial on which a finger moves?

MR. ASPINALL.—There is something in the shape of a dial; I think it has a finger which moves but I am not quite sure.

LORD MERSEY.—Is that it?

MR. NEWCOMBE.—Yes, I understand so. It is in an upright position in front of the compass.

MR. ASPINALL.—One is rarely allowed on the bridges of these large ships. I do not know absolutely, but I understand that it is an instrument which enables the person in charge to inform himself whether or not the wheel is working properly and efficiently, and it was this instrument which enabled Bernier to so inform himself. The pilot in charge of the *Alden* said that he could make no imputation against the character of Mr. Bernier that he had known Mr. Bernier for many years and that he knew that he was an efficient pilot and an upright and honest man.

LORD MERSEY.—In reference to the pilot of the *Alden*, will you tell me is there any significance in the fact that the alleged irregularities of the *Empress of Ireland* in coming down the river did not induce him at any time to slacken speed?

MR. ASPINALL.—I ventilated that fact and I should, of course, have been glad to have availed myself of it but I do not think that it is of importance for the reasons that, according to the evidence of the pilot, it was at a long distance away and as she got close and she really became an object which one had to consider for the purpose of safely passing, namely, a mile away, she behaved perfectly well. Therefore, I do not think that I can invite your Lordships to attach any real importance to that point.

One further observation in regard to this incident and I pass away from it. The man, Galway, is the foundation of this. When he was examined by Mr. Holden, and examined at considerable length, at the end he told us, Mr. Holden said: Is that all? This was the gentleman who considered that the steam steering gear was the principal asset of the ship. He was so reticent about this matter, to which he attached this very great importance, that he withheld it from Mr. Holden. Is it not obvious that no reliance is to be placed upon this gentleman's testimony?

LORD MERSEY.—His case was, as I understand it, that Mr. Holden had failed to ask him the proper question.

MR. ASPINALL.—Yes. Yet, he had odd views about questions. He did not like my questions and I suggested that he might put them in his own way but he did not see fit to agree to my suggestion. I ask your Lordships to discard the whole of this Galway evidence. The matter does not come true.

Mr. Haight, feeling that he is in difficulties in asking your Lordships to come to the conclusion that the helm of the *Empress* was ordered to be put to starboard then makes an elaborate and detailed attack upon the telemotor system and also upon the area of the rudder. His cross-examination is good enough but it is obvious that this cross-examination was preparing the way for the testimony that the expert was to give when he came into the box. First of all, the suggestions that Mr. Haight made to the various witnesses were all met with a denial from the various witnesses who were called. Mr. Hillhouse told us that it was a system that he approved of and that it was a system which was in use on all the great vessels that cross the Atlantic. Mr. Liddell, who had had charge of the machine for eighteen months said that it had always been in good order, and Mr. O'Donovan, who said that he had been in charge of it for eight months spoke also to the same effect. Mr. Sampson, who was chief engineer, gave similar evidence. There again, your Lordships have positive evidence in regard to this matter. It may be that Mr. Hillhouse is not truthful—nobody can

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suggest that—but is all his experience, all his testimony as to the value of this steam steering gear to be disregarded? It is impossible to think that Mr. Haight can ask your Lordships to come to such a conclusion.

Then, an attack was made by Mr. Reid upon the area of the rudder. My learned friends are in difficulties, and in order to establish their case upon what is the vital point, that is whether the helm was put to starboard or not, they are driven to put forward these various theories. They put them forward and, one after another, they are entirely demolished by the evidence of people who have knowledge of the events and can speak with accuracy in regard to these suggestions that are being made against the telemotor system and against the area of the rudder.

There is one other observation to make in regard to this matter. In 1908 it would appear that the owners of the ship—if my learned friend Mr. Haight likes it I will give him this—thought that some improvements might be made in the rudder; but they were made and since that time there has been no complaint at all. Does that not mean that the C.P.R., who knew their business, were content and satisfied with this rudder after it had been repaired? I submit to the Tribunal that my helm was never starboarded and I have established that the steering system never failed on this occasion. If that be right my submission is that it carries me the whole way in this case. I might quote the observations of a great many witnesses who have spoken in regard to these matters but it does occur to me that by dealing shortly with this case I can be of much more assistance to your Lordships than if I were to weary you with the details of the testimony given by a large number of witnesses.

So much for the steering. What about the *Storstad*? In the course of my speech I have made a great many remarks about the matter, and therefore it will not be necessary for me to deal at any very great length with it. My point in that connection is this: There is an admission that the helm was ported, there is an admission that the helm was hard-a-ported, and there is an admission that the helm was hard-a-ported under these odd circumstances, namely, that the second officer saw fit to take it upon himself to put the helm hard-a-port. What exactly did happen upon the bridge of the ship we probably shall never know, but it is significant that the Master is never called up until the last moment and it is significant that when the helm is put hard-a-port it is done without orders and it is done under these odd circumstances that this ship which is a good steerer, as I have no doubt she is, readily answers to her helm. This was admitted by Mr. Toftenes and the man at the wheel. It is odd that these things should be happening upon the bridge of this vessel.

LORD MERSEY.—Their position is that although the helm was ported and hard-a-ported the ship's course did not alter?

MR. ASPINALL.—That is a point I am going to deal with. That is a point which they, of course, must seek to establish if they can. What I am pointing out now is that the helm was acted on in the proper way and under these odd circumstances. The second point I am coming to is this that, according to the evidence of the man who was at the wheel, there was steerage way upon the ship.

LORD MERSEY.—Refer me to that in the evidence.

MR. ASPINALL.—The fifth day, the evidence of Johannsen.

LORD MERSEY.—Page?

MR. ASPINALL.—Page 1030. Cross-examined by me, Mr. Johannsen said:

‘Q. Mr. Johannsen, at the time of the collision was the *Storstad* travelling fast or slow?—A. I do not know.’

One would have thought that he would have at once said she was stopped but that is the answer.

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Q. A man at the wheel ought to know, if he is using his wheel, whether the ship is travelling fast or slow ought he not?—A. I do not know.

Q. He would know whether the ship had steerage way or not?—A. She had steering.'

LORD MERSEY.—That was the answer?

Mr. ASPINALL.—I had difficulty in getting it but that is the answer 'she had steering.' Mr. Newcombe kindly invites my attention to the next question. Your Lordship, appreciating the importance of the matter, said to this man:

'Be quite clear about it. Had the *Storstad* steering way at the time he was at the wheel?—A. Yes.'

There is no doubt about what the man intended to convey. Then I asked him this:—

'Q. Is the *Storstad* a good steering vessel?—A. Yes.

LORD MERSEY.—Where was Johannsen?

Mr. ASPINALL.—At the wheel. Now we had the evidence of Mr. Reid yesterday. Mr. Reid was called to support the case put forward by the *Storstad* and he in the course of his examination-in-chief used language that was only consistent with the *Storstad* having way upon her—she drove herself into the side of the *Empress* and that class of phrase. The result of that was that I asked him had she speed upon her. There was some little objection on his part to the word 'speed' but the outcome of his evidence was that she had way upon her. This is a remarkable admission. But he had to make it because there was this great wound in the side of the *Empress*, and when one of the ships went ahead, the bow of the *Storstad*, in its present distorted condition—

LORD MERSEY.—In the earlier part of the case some of the witnesses from the *Storstad* said that the *Empress* came down in a crab-like way against the bow of the quiescent *Storstad*.

Mr. ASPINALL.—I can refer your Lordship to that. That was the outcome of a diagram.

LORD MERSEY.—That appears in Toftenes' evidence, I think.

Mr. ASPINALL.—It is in his evidence. I invited him to draw a diagram of the vessel in the shape that it emerged from the fog, and it is one of the exhibits. When I looked at the exhibit I pointed out to him that if he was right in the claim that the *Storstad* was the vessel that had blown two long blasts and was stopped, in order to have the collision at all, the *Empress* must have come down in crab-like fashion upon him. I thought that he had difficulty in making his case unless the *Storstad* had speed upon her, and I submit that is the fair outcome of the diagram he drew. I assume that Mr. Reid was hopeful that the question might not be asked him.

Chief Justice McLEOD.—My impression of the evidence is that the *Storstad* gave three blasts to signal 'I am stopped in the water,' and that then he ordered his engines full speed ahead.

Mr. ASPINALL.—Slow ahead.

Chief Justice McLEOD.—And at the time of the collision he had way on.

Mr. ASPINALL.—That is a further reason for establishing my proposition that the helm was hard-a-port and that this ship had headway upon her. If the helm was hard-a-port and if she had headway upon her she inevitably altered course. She is a good steerer and therefore she must have altered course. We have thought, and we are agreed, that the ship which altered course was the occasion of this trouble. Mr. Reid, at page 1803 on the ninth day, gave us evidence in regard to the headway upon the

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Storstad. I asked him about it and I warned him because naturally I apprehended the very great importance of this admission made by this expert speaking on behalf of the *Storstad*, in order to feel certain that his words conveyed what I thought was the meaning of his words. I said: Are you sure? and your Lordship, naturally desirous of ascertaining the truth of this case, also pointed out in the clearest language the importance of the matter. There is not the slightest doubt that this man's honest opinion is that this vessel had way upon her to drive her into the side of the *Empress*. In regard to the engineer's log, my Lord, I submit that it in itself, assuming this engineer's log to be an accurate record of what was happening, points inevitably to the conclusion that this vessel had steerage way on her when the helm was put hard-a-port. The log says she was travelling at full speed till three o'clock. I think she is a ten-knot boat. She was travelling at ten knots.

LORD MERSEY.—At what time?

Mr. ASPINALL.—Until three she is travelling at ten knots. She is a laden ship, a collier, carrying a heavy load, and under the circumstances she naturally carries her way for a considerable time, and, although the engines may be at slow speed, as apparently, according to the log, they were, at 3.02, she does not break her slow speed until some minutes have elapsed. Until three she goes full speed. The order then goes down 'slow speed' until 3.02 and then, at 3.02 comes the order 'stop.' My submission is that she had still got, at the end of these two minutes, a very considerable headway upon her. We have her speed stated here at ten knots; in two minutes she would not have got anything like down to slow, and as the Chief Justice reminds me, according to her own story, they then put her slow ahead. There is nothing in this log to suggest that this vessel had not anything but quite good way upon her at the time she came into us. At 3.05 the order is given 'full speed astern' and some thirty seconds after that this collision happens. I submit that this log conclusively shows that what we claim necessarily happened. Admission, helm hard-a-port; log establishes that the vessel had good steerage way, good headway upon her at the time she came into us.

In order to escape from that conclusion what is it that these people have said? They have said that the three people who were on the bridge—one and all—looked at their compass, and that the first thing that the captain did when he came up was to look at his compass, and that he found that she was still upon her course. If what I have been saying is right it means that this evidence is not accurate.

LORD MERSEY.—What?

Mr. ASPINALL.—If what I have been saying is right, that she had headway and that she had her helm hard-a-port, the conclusion is that this evidence that they, one and all did look at her compass and found her on her course, is not right.

LORD MERSEY.—Is not right?

Mr. ASPINALL.—Is not right. Why should they all look at their compass? The Master is summoned and, be it observed that when the Master is summoned he is not told that there is a ship in his vicinity. When he comes on the bridge he does not know that there is a ship in the neighbourhood, but the first thing he does is to look over the side and see if she is stopped and then to ascertain whether she is on her course. It is odd that the Master should do such a thing. As far as his mental state is concerned everything is safe; no one has said a word to him about any ship in the neighbourhood. I invite your Lordships to say that that did not take place; that that is not right.

You have the evidence of the man, Toftenes, who was in charge of the ship. He of course did say that he looked at his compass. For the reasons I have given I submit that this is not right. Then we have the remarkable evidence of Saxe, the young man who put his helm hard-a-port and the young man who is the culprit in this case.

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The ship had steerage-way, and when he is asked if the ship kept on her course his affection for the compass is remarkable. He is sounding his whistle but he is keeping his eye on the compass. He tells us that he pulls the whistle and keeps his eye on the compass. With the loud whistle of the *Empress* ringing out and when she is coming closer and closer, they are still keeping their eye on the compass. My suggestion is that these people on the *Storstad*, so far from looking at their compass, were, to use the sailor's phrase, keeping their eyes skinned to pick out the *Empress* as fast as she came in sight. They were not looking at the compass. Johannsen, the man at the wheel, says that the moment the collision happened he rushed away to summon his mates but that he was very careful before he rushed away to look at the compass. What was in his mind? Here was a collision between them and a great passenger vessel and I have no doubt that this man Johannsen's first idea was that his ship probably was imperilled. He saw that a grave collision had happened and he rushed off to summon his mates hopeful of saving their lives.

That is the evidence in regard to the compass on board this ship. There was a young man who did not look at it. He, unfortunately, was not young or agile enough to get back and look at the compass. He does not suggest that he did get back. But he did tell us this and it is somewhat significant. At page 990 on the fifth day, when he was giving his evidence, he was being examined by Mr. Haight and he was asked what lights he saw. He said that he saw her masthead lights and then Mr. Haight asked him this:

Q. What was the first coloured light that you saw on the *Empress*?—A. The port lantern.

Q. What colour was it?—A. Red.

Q. When you first saw the masthead light, which bow was it on?—A. The port side.

Q. And when you first saw the red light——

Before the question is finished he gives the answer 'The port side'. He evidently was a bit of a thought reader; he must have known what was in the mind of Mr. Haight. Then Mr. Haight very properly said:

'Let me finish the question, please.'

LORD MERSEY.—We have the answer before the question.

I submit that the evidence really is not very valuable in enabling your Lordships to determine the points which are involved in this case. That is the evidence in regard to the compass. I submit that the evidence is overwhelming to establish that this vessel was at the crucial time under way and with a hard-a-port helm. Once your Lordship comes to the conclusion which vessel was using an effective helm at the time of this collision that enables your Lordship to say who was the culprit in this matter.

LORD MERSEY.—You will not forget, Mr. Aspinall, that the difference between you here is whether the helm really was effective.

Mr. ASPINALL.—I have been dealing with that matter and showing that she had steerage way and that she was a good steerer and that the necessary consequence is that she did come into us. Then I was pointing out that as against that it will be pressed upon you that these various people were looking at the compass, and that she had not altered course. I presume so but the explanation which is always good is the current; it is always the current. Let us consider. It is the current that they were frightened of. Let us consider whether this is a serious matter. They were apprehensive that the current might deflect the heading of the ship. The evidence is that

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the ship was keeping on her course but they were apprehensive that she would leave it. In order to prevent that taking place the helm is put a-port—the helm is put a-port and the vessel still keeps upon her course. One would think that that would satisfy the most careful of navigators but apparently it did not because Mr. Saxe, although he knows the helm is being put to port and that the ship is doing nothing wrong, sees fit to put it hard-a-port.

LORD MERSEY.—Your point is that if the helm was put to port and nothing happened there was no object in putting it hard-a-port.

Mr. ASPINALL.—That is the obvious common sense of it.

LORD MERSEY.—If the object was that naught should happen?

Mr. ASPINALL.—That is the obvious common sense of such a matter. I have pointed out to your Lordships that it is essential to the reputation of Saxe amongst his Norwegian clientele, that he shall escape if he can for having put it hard-a-port. It is essential for this young man, who is the real culprit—and I am sorry for him—to offer some excuse for putting the helm hard-a-port and I suggest that for no other reason except that he made this mistake in navigation he has to put forward this excuse—the current. As I have already pointed out that theory, that excuse, is really no excuse at all. What Mr. Haight says at page 45, on the first day, is this. Your Lordship asked him after the statement of our case had been read to make a draft of his statement, but he preferred to state his case and he did it with very great facility. He said at the bottom of page 45:

‘A little later, the chief officer of the *Storstad*, in order to make sure of ample room, says that he ordered the wheel ported.’

I submit that that probably is true.

LORD MERSEY.—Read me that passage again.

Mr. ASPINALL.—

‘A little later, the chief officer of the *Storstad*, in order to make sure of ample room, says that he ordered the wheel ported.’

My suggestion is that that really is the truth of this matter and that, owing to the fact that you can never be certain in fog that the whistles are giving you certain and safe indications of the position of another vessel, and that they often give you misleading indications, sometimes a whistle which is apparently on your starboard bow is really on your port bow and therefore these people may have been mistaken and may have ported their helm in the belief that they were giving the *Empress* more room.

LORD MERSEY.—I suppose you say that that passage you have read from page 45 disposes of the question of the current?

Mr. ASPINALL.—No, I do not. Mr. Haight may not have said in express terms anything about the current but he may have had the current in his mind. What I am saying is that, current or no current, the real explanation why they were porting was apparently that they desired to give us more room and that they were effectually porting their helm in order to give us more room.

LORD MERSEY.—That seems to me to be inconsistent with the theory of the current.

Mr. ASPINALL.—Undoubtedly. I think it is only right that I should read on in order to see what Mr. Haight said as a whole; it is not fair to pick out one passage and not read it all. Further on he says this:

‘A little later, the Chief Officer of the *Storstad*, in order to make sure of ample room, says that he ordered the wheel ported. His statement is that he had no idea of danger, that he had seen the boat go into the fog bearing red to red to him, but that his engines were stopped and he was slowing down, and

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didn't want to take any chances of his boat sheering one way or another, and if he was going to change at all he wanted to change to starboard. The wheel, when put to port, had no influence upon our course. It was then put hard-a-port. The third officer, who was also on watch and on the bridge, himself helped put the wheel over to be sure it should go all the way. Still the *Storstad* would not swing, and then, because we had found that our vessel had lost steerage-way, the third officer pulled the whistle cord, blowing a signal of two long blasts as required by the regulations, to mean that our vessel was not under steerage way. About the same time he blew the two whistles, in order that his vessel might not become entirely unmanageable, he gave a signal on the telegraph "slow; ahead," and he whistled down the speaking tube to the Captain. The Captain, when he turned in, had said "if we run into any fog, call me," and those were his regular instructions anyway.

Now, my submission is, as I said before, that the using of this helm really was for the purpose of making sure of ample room, and that is what was in the mind of Mr. Saxe when he took upon himself—

SIR ADOLPHE ROUTHIER.—Has the existence of the current been proved?

MR. ASPINALL.—I do not know that it has. They speak of a current and of the current, but I know nothing more of it than that.

LORD MERSEY.—I do not know whether or not it has been proved; nor do I know what direction the current takes. I do not know whether there is anything on any of the charts to which our attention has not been directed which does indicate that there is a current.

MR. ASPINALL.—I think it was admitted on all sides that there was a current of about a mile or a mile and a half. May I make this observation with regard to the current: that if one vessel is in the current, the other vessel is probably in the current too. It is rather like as if children had two little toy boats in a bath, and you carried the bath about; if it affects one it affects the other, that is all.

LORD MERSEY.—You mean to say that if the current has any effect at all, it affects both ships?

MR. ASPINALL.—Yes; as you move your bath, so will the two vessels go one way or the other.

LORD MERSEY.—Is there anything on any chart that is in evidence which illustrates this current? I see on one of the charts, some distance from where the collision took place, the words: 'current $1\frac{1}{2}$ to $2\frac{1}{2}$ knots.' Is that the only reference to current that we have on the charts?

MR. ASPINALL.—That is the only reference that I can find.

LORD MERSEY.—I want to see, Mr. Aspinall, where this current is first introduced in the evidence.

MR. ASPINALL.—It was introduced by Mr. Toftenes.

SIR ADOLPHE ROUTHIER.—I think it is in the testimony of Toftenes when he was asked why he ordered the helm to port.

LORD MERSEY.—Probably it is. I am not sure, but I think that it is also mentioned in Saxe's evidence.

MR. ASPINALL.—The reference appears at page 210 of the evidence of Toftenes, my Lord.

LORD MERSEY.—Will you read what Toftenes said?

MR. ASPINALL.—Yes, my Lord.

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‘Q. Why did you order your wheel ported?—A. Because the ship being stopped so long, I was afraid of her losing headway so much that she might take a sheer on the current.’

LORD MERSEY.—Now then, there is Mr. Saxe, on page 939. Will you read that; it begins:

‘Q. Your engines were stopped were they?—A. Yes, sir.’

Mr. ASPINALL.—Yes, my Lord; Question 1580:

‘Q. What did he port his helm for? Why did he port his helm?—A. The chief mate ordered the wheel to be ported.’

‘Q. But why did he order it to be ported?—A. I didn’t ask him why.’

‘Q. I dare say you did not ask for a reason, what do you suppose the reason was?—A. I thought it was for the current.’

LORD MERSEY.—That is the way he introduced it?

Mr. ASPINALL.—Yes.

LORD MERSEY.—Does anyone else except Toftenes and Saxe refer to the current?

Mr. ASPINALL.—I think not, my Lord; I am subject to correction about that, but I think not.

LORD MERSEY.—I do not recall any, but I may be wrong.

Chief Justice MCLEOD.—I think these are the only two.

Mr. ASPINALL.—What I have been pointing out—and I see that your Lordships appreciate my point—is that if they were apprehensive of the current and thought that it would be cured by using a port helm, having used the port helm and finding that the vessel did not sheer, there was no reason for putting the helm hard-a-port. I think that is logical, and that there is no answer to it. I shall, therefore, ask your Lordship to throw aside consideration of the current.

LORD MERSEY.—I am not sure that that follows. If you do a little, it may be no good; if you do a little more, it may be of some use.

Mr. ASPINALL.—It was rather in my mind that Johannensen, the helmsman, who is a rather important witness in this connection—

LORD MERSEY.—He is the man who did not give the order to hard-a-port.

Mr. ASPINALL.—He was the man who was at the wheel, the helmsman. He was, to use a picturesque phrase, pushed aside by Saxe; the wheel was taken from him and Saxe put it hard-a-port.

LORD MERSEY.—Saxe was a young man of 20, was he not?

Mr. ASPINALL.—He was a young man. My Lord, at page 1023, Johannensen, who was the steering man at the wheel, was asked this: ‘Did you ever hear anything about the current,’ and his answer was ‘no.’ He heard nothing about the current.

Chief Justice MCLEOD.—Did you take that to mean that he had never heard that there was a current there, or that he had not heard anything about a current with regard to porting the helm?

Mr. ASPINALL.—I should say it did not mean that he never heard anything about the current, because if he is travelling up and down the river St. Lawrence he must know about it. I think what he means is that when the wheel was ported he did not know that it was on account of the current. Perhaps this is not a great point in my favour; it may not carry me very far, but it is somewhat significant that he did not.

LORD MERSEY.—Then does it stand in this way: Johannensen was at the wheel?

Mr. ASPINALL.—Yes.

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LORD MERSEY.—Johannensen put the helm not hard a-port but to port. Saxe is asked: Why did he put it to port? and he says: I did not know why he did it; I suppose it was the current.

Mr. ASPINALL.—Yes.

LORD MERSEY.—And when the man who did it is asked why he did it, he said he never heard of the current.

Mr. ASPINALL.—That is with regard to porting, but not with regard to hard a-porting.

LORD MERSEY.—I know it is with regard to porting, because the hard a-porting was done not by the man at the wheel, but by Saxe.

Mr. ASPINALL.—That is right, my Lord; that is the way it stands, and it is the only explanation that will carry my friends in this case. By that they sink or swim; that it was done in order to cope with the current. Then they are in this difficulty. They say: our course never altered; they are confronted with the fact that the helm was hard a-ported, and if I am right in the contention which I have been making, this ship in fact had speed upon her, for the various reasons which I have already indicated.

LORD MERSEY.—And the reason given by them for the ship's not answering to the helm is that no way was upon her?

Mr. ASPINALL.—Yes. The two things, the helm and the speed, are closely connected, because if there is no speed, the helm is inoperative and if there is speed the helm is operative. Therefore in judging of the conduct of both these vessels, I submit that these two things ought to be borne in mind, because if there was no way upon my ship, even if you should think that my helm was starboarded, it would have to be admitted that that would not affect the heading of my ship. I have already pointed out that all the evidence from persons on my ship who are still alive is that the helm never was starboarded, and the evidence is that the helm of the other ship was ported and hard a-ported under what I may call suspicious circumstances.

Chief Justice MCLEOD.—You say that the *Storstad* was on the starboard; what have you to say as to the application of rule 19?

Mr. ASPINALL.—I say that rule 19 applies to this state of affairs: if two ships are crossing with the port bow of one to the starboard bow of the other, or the port light of one open to the green light of the other, and there is therefore risk of collision, the duty is imposed upon the ship which has the other on her starboard bow to keep out of the way of the other.

LORD MERSEY.—Toftenes admitted that he thought there was no danger of collision.

Mr. ASPINALL.—Quite apart from his admission, I submit with confidence that your Lordships would never think that there was risk of collision at this distance in clear weather. If my story be right, these ships were brought green to green at a distance of something like three or four miles.

LORD MERSEY.—Although the weather was clear at that time, fogs were about. You know, fog had been encountered twice on your voyage down from Quebec, and the fog that, in a sense, was the cause of all this misfortune was the third fog that had appeared. Therefore, though everything was clear and plain at the time, there was what might be called the risk of a risk. If you know what that is, I do not. The expression was used elsewhere, or something to the same effect.

Mr. ASPINALL.—I know who used it; it was the late Lord Esher. It was not always approved in the House of Lords.

LORD MERSEY.—I do not know what the risk of a risk is; if you have a difficulty of that kind you may have the risk of a risk of a risk.

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MR. ASPINALL.—After the two ships had got green to green, or red to red at a distance of something like three or four miles, I submit that it cannot be contended that there was any risk of collision then, and there certainly was no risk of collision in the earlier position when they were red to green. Of course, if I succeed in discrediting the story of the *Storstad*, then I think I am entitled to ask your Lordships to say that much worse may have been happening on the *Storstad* than we have elicited from their naturally unwilling witnesses.

LORD MERSEY.—You have not referred to the circumstance that the man who ought to have been on the bridge of the *Storstad* was not there.

MR. ASPINALL.—Not only was he not there, but when he was called and came up, he was not told that there was a ship in such close proximity and that it was necessary for the *Storstad* to be at rest. He was told something, and it was this, page 213:—

‘Q. What did you say to him?—A. I told him we were about 6 miles off Father Point and that it was getting thick.’

My suggestion is this—and I think that it is a well-founded suggestion—that that ship had not stopped and had not taken action for the *Empress*.

LORD MERSEY.—I think the captain said that the ship was stopped.

MR. ASPINALL.—Yes, he looked over the side; he looked at the compass and over the side.

LORD MERSEY.—That is a dangerous observation for you to make, because it may be said that Captain Kendall also looked over the side.

MR. ASPINALL.—Yes, Captain Kendall had been on his bridge taking action, and he was the man to give the order to blow the appropriate two blasts when the time came; therefore he would have a reason for informing himself, and the way a sailor does inform himself is by looking over the side. I had not finished quoting from the evidence of Toftenes on page 213. The next question was this:—

‘Q. Did you say anything about a vessel in the vicinity?—A. I did not.’

So the captain of the *Storstad* is called up and he is merely told that there is fog.

LORD MERSEY.—That it was getting foggy.

MR. ASPINALL.—Getting thicker. I have not even yet done myself full justice in quoting from the evidence, because there is another question and answer that I should read:—

‘Q. Did you consider that there was any danger of collision then?—A. I did not.’

Of course he did not, because he knew nothing about the other ship. Yet under those conditions he asks your Lordship to believe that he was careful to ascertain when his ship was stopped. The next thing he does is, seeing her lights come into view, order full speed astern, too late to avoid the collision.

There are one or two matters to which I wish to direct your Lordship’s attention in connection with these questions of speed. It was suggested against me that because my head after the collision was found pointing southeast, that showed that I had headway upon me. According to the evidence of Captain Kendall, your Lordship will remember that my head was southeast after the collision. The suggestion made was that the *Storstad*, having penetrated into my starboard side, was in the position of a rudder, and that because my head came to the southeast, that led to the conclusion that I had headway. Well, how a ship’s head will go after there has been a collision and when she is sinking, personally I know not, and I doubt very much whether the assessors will be able to tell your Lordship that. It may go anyway.

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A further suggestion—it was a point made by Mr. Haight in cross-examination of one of my witnesses—was that if my ship was struck amidships what would happen would be that I probably would yield bodily before her and go crab fashion away in front of the *Storstad*. I should think that it is highly uncertain which way my head would go. But this is to be remembered: that a ship does not pivot on her centre—and again I say this subject to correction by the assessors. A ship pivots as a rule about a third from her bow, and if she is struck aft of the pivoting point, where will her head go? It will go to the starboard side. Now, that would be an explanation, but I say that no explanation is needed, because how the head of a ship may go after there has been a collision and she has listed and sunk is something no man can tell. I am dealing with the point only by way of discussion, because Mr. Haight made the point; I submit there is nothing in that which will show speed upon the *Empress*.

The only other matter to which it is desirable to call your Lordships' attention in this connection is this: the evidence of passengers. I am not going to invite your Lordships to attach too much importance to the evidence of passengers, but such passengers as have been called have either spoken to hearing our two blasts or spoken to our ship being stopped.

LORD MERSEY.—One man has stated that the *Empress* was going astern; apparently it was rather suggested by Mr. Haight at one time that he had taken the other view.

Chief Justice MCLEOD.—Do you think that as a rule passengers are likely to know whether or not the ship is going ahead?

MR. ASPINALL.—I have just stated it to your Lordships; I am not attaching importance to that testimony. There it is upon the record; I give your Lordships the reference, and if your Lordships hereafter see fit to read it your Lordships will do so. What I am pointing out is this: that some of them speak about being stopped; others speak to the two long blasts. Their references to the long blasts are, of course, much better for me than their observations as to whether we were stopped or not, because, unless Captain Kendall was playing with his whistle, that would mean that in the opinion of Captain Kendall the vessel was stopped. The witnesses to whose evidence I trust that some time your Lordships will refer, are Smart, a first-class passenger, at page 442 and 443; Black, a second-class passenger, at page 451, and Pugmire, a second-class passenger, at pages 918 and 919.

May I remind your Lordships of the lady who gave evidence in this Court, who, I think, meant what she said, and said what she meant. That was Miss Townshend; Miss Townshend was the lady, your Lordship may remember, who swam from the *Empress* almost to the side of the *Storstad*. I submit that she was an extremely intelligent young lady, who knew what she was talking about, and she was positive as to this: that she heard the *Empress* blow three short blasts twice, and she heard the *Empress* blow two long blasts. I submit that that is very valuable testimony in this case.

LORD MERSEY.—Where is that evidence?

MR. ASPINALL.—Page 1664, on the ninth day. I asked her if she was certain, and she said yes; she had no doubt about it at all. As I have already pointed out, these unhappy people who in the dead of night were suddenly precipitated into the water, if they had noticed anything which would justify complaints against the method of navigation or management of the *Empress*, would naturally have been ready to come forward and make those complaints. This lady was not called by me or by those associated with me; she was called at the invitation of Mr. Haight and for some other purpose. With regard to other matters she was somewhat in doubt; with regard to this matter she had no doubt whatever.

Now, with regard to these long blasts, there is a considerable body of evidence that they were not blown and there is some evidence that they were blown. Your Lordships will no doubt weigh which is the better evidence with regard to the

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matter. What I want to point out in that connection is this: suggested long blasts blown on the *Empress* before she reversed. There would have been nothing wrong in Captain Kendall's blowing these long blasts before he got into the fog or as he entered the fog, because it has been laid down that it is your duty to blow a blast before you run into a fog. There would have been nothing wrong in his doing it; he would have lost nothing by admitting that he had blown long blasts under those circumstances. His case would not have suffered one bit. I submit that here again the testimony of the man who is doing the thing is much better than the testimony of stewards who woke up or happened to be awake and who thought they heard blasts. One can very well understand their frame of mind after this collision had happened; many people imagine things that they have never seen at all. In that connection may I remind your Lordships of a statement made by M. Belanger. M. Belanger is a gentleman against whose character or veracity I have, of course, no desire to make any suggestion whatsoever; he is obviously an honest man occupying a good position. But consider for one moment his evidence with regard to whistles. He was seven or eight miles away and he thinks he heard whistles; I submit that it was impossible for him to hear any whistles at all. He was a mile to the westward of Father Point, and the two vessels were some six or seven miles on the other side of him. What happened about those whistles, according to him, he never told Captain Lindsay. Later he makes some statement about the whistles and when he comes into court here he gets them in a quite different order. My point with regard to his evidence, is, as I have said, that the distance between the ships was much too great to enable him to hear anything. Also it is to be noticed that the order in which he got them was wrong. According to his evidence before the Coroner the order was this: one, one, three, two. When he came to give his evidence here in court, the order was: one, two, three. I submit that evidence of that character really is of no value in enabling your Lordships to arrive at any safe conclusion in this case.

My Lord, with regard to this matter of speed, which I say is closely allied with helm action; may I remind your Lordship of this: Galway, who came here to give evidence with regard to our steam steering gear, when asked by me, at a time when he had no affection for me, I am afraid, whether the *Empress* was stopped at the time of the collision, answered yes.

Chief Justice McLEOD.—Did Galway say that?

Mr. ASPINALL.—Yes, my Lord, and I was pointing out that it was given at a time when I am afraid he was not fond of me and would not be ready to help me.

LORD MERSEY.—I do not think you can say that Mr. Galway was one of your witnesses. Will you read the questions and answers, reading two or three questions before and two or three after. What page is it?

Mr. ASPINALL.—Page 635, the third day:

'Q. There is one other matter that perhaps I ought to have asked you about, Mr. Galway. Did you tell Mr. Holden when you saw him at Montreal, when you were asked if "the reversing of your engines took the ship's way off" that you thought so? Was your answer "I think so"? You have told me this afternoon that you told Mr. Holden that your whistle was twice blown and that it blew three short blasts?—A. Yes.

Q. That is right, is it? And in connection with the reversing of her engines, Mr. Holden asked you the question whether the reversing of the engines took your way off. Do you remember?—A. Yes, that is so.

Q. He (Mr. Holden) said 'Do you think they took her way off'?—A. I think so. What I understood him to say was how many minutes did it take to take the stern way off the ship and I answered "seven minutes."

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Q. Let me repeat this: 'They stopped the engines and then reversed them and then kept on going astern for a certain length of time?—A. Yes.

Q. Do you think they took her way off?—A. I think so.

Q. Did she get any stern way?—A. I do not think so.

Q. Did you tell this gentleman that?—A. Yes.

Q. Is it right; is it correct?—A. I say yes, sir.'

Chief Justice McLEOD.—As to the reversing of the engines taking the way off; do you understand that to mean that she came to a standstill?

Mr. ASPINALL.—I think so.

Chief Justice McLEOD.—Did you reason it out that way?

Mr. ASPINALL.—I think that if you take your way off, that does not mean in sailors' language any reduction of speed.

Chief Justice McLEOD.—Of course, the reversing of the engines would first result in a reduction of speed and subsequently bring the ship to a standstill?

Mr. ASPINALL.—Yes.

LORD MERSEY.—I suppose the expression 'her way is taken off' would mean that she has come to a standstill?

Mr. ASPINALL.—I think so, my Lord; of course, I defer to your Lordship's views I appreciate that.

LORD MERSEY.—To reduce her way is not to take her way off; to take it off is to stop.

Mr. ASPINALL.—I think so, my Lord; of course, I defer to your Lordship's views in regard to the matter. I do not want to make much of the evidence of Mr. Galway, but it is somewhat significant that he told Mr. Holden in the early stages of this case that her way was off, and then again, after the various incidents connected with his cross-examination had taken place and after I had read to him his evidence on the previous occasion and asked him if that was so, he said 'yes.'

LORD MERSEY.—What was the interval between the two signals of three short blasts?

Mr. ASPINALL.—Two or three minutes, my Lord.

LORD MERSEY.—And the evidence was, I think, that it was possible if she were going full speed, to get her to a standstill—by a very violent operation it is true—in two and a half minutes or so.

Mr. ASPINALL.—Two minutes and fifteen seconds, I think it was. With regard to the very violent action, may I be allowed to say this: although the order goes from the bridge to the engine room, full speed astern, it is to be remembered that engineers are extremely fond of their engines, and they always do it gradually. On board many ships—again I speak subject to correction by the assessors—if the officer on the bridge wants to convey to the mind of the person in charge of the engines down below that going full speed astern is a matter of urgency, as a rule it is done by pulling a lever twice. Your Lordship will remember whether I am right or wrong in making that suggestion; Captain Murray, I am told, said so.

The only other matter in connection with speed to which I wish to call your Lordship's attention is the evidence with regard to damage.

LORD MERSEY.—One matter I should like you to refer to is the evidence of the divers.

Mr. ASPINALL.—My Lord, the evidence of the divers, so far as it seems to me to be pertinent to this matter, is that when they found us we were heading northeast. Apparently we had swung at one time, because shortly after the collision we were

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heading southeast and by the time we reached bottom we were heading northeast. The diver said that that is just the sort of thing that might be expected. He showed how unimportant is the heading.

LORD MERSEY.—Will you tell me where the diver says that?

Mr. ASPINALL.—Yes, my Lord. I was making an observation as to how unimportant is the heading of the ship after the collision has taken place. She had headway to the southeast; she has travelled back to the northeast.

Chief Justice MCLEOD.—What did you say was the heading at the time of the collision?

Mr. ASPINALL.—My heading on my course was north 72 east; that is, to put it into compass, east by north half north.

LORD MERSEY.—The difference between compass and magnetic is not of any consequence. That being the course at the moment of impact according to Captain Kendall's evidence, what is her position according to the diver?

Mr. ASPINALL.—Northeast.

LORD MERSEY.—That is an alteration of how much?

Mr. ASPINALL.—That is an alteration of two and a half points. Meanwhile, if this evidence is right she swung back during the time she was making the descent to the bottom of the sea. My point is that no reliable argument can be based upon the heading of this vessel. She has ceased to be a vessel; she has been destroyed, really; she is answering neither helm nor engines.

LORD MERSEY.—She must have been answering some forces.

Mr. ASPINALL.—Oh, yes, some forces.

LORD MERSEY.—But what those forces were, it is extremely difficult to say.

Mr. ASPINALL.—Just so. My Lord, at page 1295 on the seventh day, the diver told us that her bow was northeast.

LORD MERSEY.—We were to have had some further particulars from the diver from the *Essex*; what they were I cannot just at the moment remember.

Mr. HAIGHT.—The diver, my Lord, agreed to send specific data taken from his memorandum to show the stage of the tide at which his men had gone down and the length of time they stayed under water in each case. I understood Mr. Newcombe to say yesterday that he would take steps to get that data; it has not yet arrived, so far as I know.

LORD MERSEY.—I have not heard of it.

Mr. ASPINALL.—At page 1298 the diver said that he thought her stern would swing towards the shore. Of course, if after the collision my head (her stern) had gone over to the southeast and she is found on the bottom northeast heading, then undoubtedly her stern has gone towards the shore and her bow would go out from the shore. Whether that is of any value to your Lordships or not, I know not.

Chief Justice MCLEOD.—Will you read that again, please?

Mr. ASPINALL.—He was asked what would happen to the ship, and he says that if she occupied a certain position—he does not say what—at the surface, she would swing her stern in or her bow out.

LORD MERSEY.—Who says this?

Mr. ASPINALL.—Mr. Wotherspoon, the diver, but whether he knew or not, I know not. Speaking for myself, I do not ask your Lordships to attach much importance to that, one way or the other.

My Lord, at this period of the case I was coming to the evidence with regard to the damage.

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Chief Justice McLEOD.—Damage to the steamer?

Mr. ASPINALL.—Damage to the steamer that has survived.

LORD MERSEY.—To the *Storstad*.

Mr. ASPINALL.—To the *Storstad*, and to see if that will throw any light upon how this collision happened. My Lord, I think I am justified in saying that, at any rate in England, it has constantly been judicially laid down—and Mr. Reid agreed with me in this—that where you have only one ship surviving, the conclusions you can draw from the damage found to the one ship are not very useful in enabling you to come to any certain conclusion as to how it was that those ships came into contact, or under what conditions they came into contact. Mr. Reid, when I asked him, said that my suggestion was right, but that the extraordinary conditions of this case enabled him to judge as to what happened, and that was why he was able to tell us what these two ships had done. Now, he has only the one ship, and this is in doubt. Mr. Hillhouse says that his opinion is that the *Storstad* assumed her present distorted condition before she had penetrated the plating of the *Empress*. I say that we have no certain data here, because these experts do not agree as to the facts. The other gentleman took the view that the present distorted condition of the *Storstad's* bows was caused after the *Storstad* had penetrated the side of the *Empress*. Well now, we have another serious conflict between these two gentlemen. Mr. Hillhouse was of the opinion that the angle between these two ships when they struck was in the neighbourhood of 80°; Mr. Reid was of opinion that the angle between the two ships was in the neighbourhood of 40°, so there is a difference of 100 per cent between these two gentlemen with regard to the angle between these two ships.

LORD MERSEY.—That is what I would call a difference of 50 per cent.

Mr. ASPINALL.—I was a little doubtful whether I was accurately stating it. With regard to this evidence, here again we are on theory. We have got away from the evidence now and we are theorizing, and we are theorizing under the condition that we have only one ship and that the views of these two eminent gentlemen are widely divergent with regard to the data. Now, Mr. Reid has given his view as to speed on the *Storstad* and he wishes to ascribe speed to the *Empress*. The first suggestion that I make to him is this: if the *Storstad* has gone into the side of the *Empress*, in view of the great momentum of the advancing *Empress*, wouldn't you have expected the stem to have been bodily set to starboard, and he gives me the answer, yes. If I may be allowed to express the opinion, I may say that I thoroughly agree with him. But some force was in operation which was greater than the force due to the momentum of the *Empress* across the bows. The bows are set to port, and that is a difficult matter for him to explain; therefore he has put forward what I submit is a somewhat fantastical explanation. Personally, I did not understand it; I have no doubt that that was due to lack of intelligence on my part.

LORD MERSEY.—I do not think so.

Mr. ASPINALL.—I have done my best to understand it. He seemed to say that the anchor on the starboard side was acting as a fender and that that, for some reason or another, drove the stem of the *Storstad* over to port. I confess that I did not understand it at all. What would happen, I should think, would be this. You have your anchor at the hawse pipe. The *Storstad* drives into the *Empress*. The anchor is disturbed, and if it can it will go somewhere. Where will it go? I should think that as the *Storstad* drove into the *Empress*, that anchor would have been driven further aft on the starboard side of the *Storstad*, and I should have thought that if that anchor was to have any effect at all upon the forward plating in the way of the bows of the *Storstad*, it would have tended to pull the plating attached to the stem round from port to starboard. But in truth and in fact the stem has gone to port. Of course, as I say, that

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is a difficulty in the way of Mr. Reid's theory. Mr. Reid told us that owing to the discovery of certain new facts, he had only two days ago to remodel his theory. I do not know whether we have all the facts of this case with regard to the damage; in fact, I am certain that we have not, because, to begin with, we have not the *Empress* and we have no certainty as to the angle of entry. It might be for all I know, that if one were able to convince Mr. Reid of new facts, he might again have to remodel his theory. I submit that this evidence with regard to theories is absolutely useless in this case. Sometimes damage is conclusive, but very, very rarely. My submission is that if any importance is to be attached to the damage in this case, it must be remembered that we have this remarkable fact: that the first forces brought into active operation upon the stem of the *Storstad*, if their theory that the *Empress* had headway be right, was a force driving the stem from port to starboard. Mr. Reid admits it, and that is something that he has to negative and overcome, because we find that the stem is in fact set to port. When I asked him, getting away—I do not want in any way to be disrespectful to Mr. Reid—from the somewhat complicated and somewhat minute calculations that he was putting before us; when I asked what his big point was which established that the *Empress* had way upon her, he said: it was the swing. Then I said: what is your second point, if you have another one? He said that the second big point was the marking of the port bow in that cavity where the anchor is now found, due to the decks of the *Empress* coming in contact with it. That is the strong point; that is the key which will unlock the door of the problem as to whether or not the *Empress* had way upon her. There again we are at once confronted with this: the angle of entry, according to Mr. Hillhouse, is 80 degrees; the angle of entry according to this gentleman, is 40; and he drew a diagram showing the ship entering at 40 or 45 and coming out at 40 or 45. Then Mr. Reid says: that satisfies me that there seems to have been headway upon the *Empress*. But Mr. Hillhouse's view and Captain Kendall's view—I know the *Storstad* people will take a different view, but Mr. Hillhouse's view is that the angle of entry was about 80 degrees, the ship running into a stationary wall at an angle somewhat in the neighbourhood of a right angle. She backs out, and with stern way upon her as she goes out the tendency is for her head to go to starboard and to draw somewhat in line with the *Empress*. As I say, what is the value of theories, unless your Lordships feel certain that you have all the data which will enable you to begin to theorize? Theories at their best are of slight value as compared with positive evidence, but when we feel that there is uncertainty as to the data, I submit that they are really valueless.

There is one other matter that I wish to deal with before I leave this part of the case.

I spoke to Mr. Haight about our respectively marking the same chart, and it was obvious to us at once that there were great difficulties. I believe Mr. Haight has a chart marked and I have marked one also. Might I hand up my chart?

LORD MERSEY.—Is this a chart which has been put in?

Mr. ASPINALL.—No, my Lord.

LORD MERSEY.—You are using it merely as an illustration?

Mr. ASPINALL.—Yes, my Lord, I am using it merely to illustrate my argument.

Chief Justice McLEOD.—What have you marked on it, Mr. Aspinall?

Mr. ASPINALL.—We have Gagnon's position of the wreck, with the two courses opposite. Now, I say at once that I do not think this will be very helpful to the Court, and for this reason, that the respective courses of the two vessels, as I said in an early part of my speech, are based upon our being certain as to our exact position in the River St. Lawrence at the all-important time. What I have been pointing out, if I may repeat it, is that neither side took four-point bearings. There is somewhat

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uncertainty about what the speed was during the time before the accident, because when we start, of course we have to get up our speed, and when we reverse, we have to lower it down. The same applies with regard to the speed of the *Storstad*. She is relying upon her patent log to give her speed. It is a very unreliable instrument at the best, so I do not think it will be of very great assistance to your Lordships. The positions claimed by the *Storstad*, which we have indicated there, are the positions which are to be found in her log.

Well now, I say at once, that I invite your Lordships to attach very little value to either log of the *Storstad*. Dealing first of all with the engineers' log, your Lordships will remember that what happened is this, that for some reason or other the young man in charge of the engines only recorded two entries in his log and no more. The poor young man was extremely distressed in the witness box. That was very obvious. But the fact remained that for some reason or other he did not go on to fill up his log, and he was very anxious to get away from his log. And then we had that somewhat remarkable evidence from the Chief Engineer that the log was brought to him, and that he made an entry in this log. And when asked why he made it, he said at last, when he was driven to it, 'well I didn't like the spelling of this young man.' He said he didn't think his spelling was right. Well, it seemed to be a very odd excuse to give, and when the spelling was looked at it was found that the spelling was all right, and as far as I know he had no other reason for dealing with the log in the way that he did.

LORD MERSEY.—There was nothing wrong with the spelling?

Mr. ASPINALL.—No, my Lord, but they didn't seem to like that log.

Then, when we came to the ship's log it was an odd document. There again, there was the odd order in which the entries had been made. The entries were not in chronological sequence, as they occurred. And then, when the witness was pressed about the ship's log, this is to be remembered, that he stated that he wrote it up at nine o'clock, at eight or nine o'clock in the evening. Later on, when he was being asked about the matter, he said he wrote it up while his ship was on the way to Quebec. But he forgot that he had told us in evidence, as appears in the same log, that the ship arrived at Quebec at 1.30.

LORD MERSEY.—I thought he meant eight or nine o'clock in the morning.

Mr. ASPINALL.—I believe your Lordship did ask him that, but he said no.

Chief Justice MCLEOD.—I thought it was eight or nine o'clock in the morning he said.

Mr. ASPINALL.—Well, my Lord, if that is so, it is a false point that I am making, and I do not want to make it.

LORD MERSEY.—Well, Mr. Aspinall, I think he said eight or nine o'clock in the morning.

Mr. ASPINALL.—Well if that is so, then there is nothing in my point, and I wish to withdraw it, but I think we are right on that. My Lord, may that be looked into, and if it is an error I will withdraw my argument on that point.

LORD MERSEY.—I will look into it.

Mr. ASPINALL.—Well now, might I draw your Lordships' attention to the chart, for what it is worth?

LORD MERSEY.—Yes, Mr. Aspinall.

Mr. ASPINALL.—My Lord, on that chart we have put the times of our various helm manœuvres, and we have also put the position of the wreck as given us by Captain Gagnon.

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CHIEF JUSTICE MCLEOD.—You mean this round mark at the top?

Mr. ASPINALL.—That is right, your Lordship. We have endeavoured to put our course as well as we can, and have endeavoured by the light of the bearings and positions given in the log of the *Storstad* to put on the chart also the different positions of the *Storstad*. Now, my Lord, the wreck, I have no doubt, is fairly in the proximity of the place where the two ships struck. And it is to be noticed that if our course be right it takes us—this at any rate is in my favour—fairly close to the wreck. Whereas their course, which they are claiming, takes them a very very long way from the wreck.

CHIEF JUSTICE MCLEOD.—Would you or would you not, assuming the *Storstad* had not ported her helm—of course you claim the *Storstad* answered her helm?

Mr. ASPINALL.—Yes, my Lord.

CHIEF JUSTICE MCLEOD.—Well we will assume that she did not answer her helm or else that the order to port had not been given.

Mr. ASPINALL.—Yes, my Lord.

CHIEF JUSTICE MCLEOD.—Taking the course you have, would you not then have come to the place where the *Storstad* was, the *Storstad* maintaining the course she was on, and you also maintaining the course you were on—would the ships not then have come together, but further distant? Do you understand me, Mr. Aspinall?

Mr. ASPINALL.—No, my Lord.

CHIEF JUSTICE MCLEOD.—Well supposing the *Storstad* had not changed her course but had continued on it and so had you.

Mr. ASPINALL.—There would have been no collision, and no danger.

CHIEF JUSTICE MCLEOD.—You think not.

Mr. ASPINALL.—No, my Lord.

CHIEF JUSTICE MCLEOD.—I was just looking at the plan and it struck me they would be closer together.

LORD MERSEY.—I don't know what you are talking about. I have been trying to understand the chart and I was not listening. What did you say?

Mr. ASPINALL.—My Lord, what I was saying was this: the Chief Justice was saying to me, doesn't that look as if the two ships were approaching one another at rather close quarters?

LORD MERSEY.—Well, yes, I think it does.

Mr. ASPINALL.—Well, my Lord, my submission is not. I have not unfortunately a copy of that chart before me, but I think if the dividers are applied it will be seen that they are approaching at a good safe distance. What I have been always pointing out is that very little reliance must be placed upon my estimates as to bearings and distances, and also upon theirs. But for what it is worth, we have done what your Lordship asked us to do. But if you take the course they claim they were on, it puts them port to port with us, and it takes them nowhere near where the wreck was found.

CHIEF JUSTICE MCLEOD.—And there could not be a collision?

Mr. ASPINALL.—No, not anywhere near where the wreck was found.

LORD MERSEY.—It is suggested to me that the chart will be found of very little assistance to us.

Mr. ASPINALL.—I think very little, my Lord.

LORD MERSEY.—If that is true I am not sorry to hear it.

Mr. ASPINALL.—The only benefit I can claim for it, and I do not feel like claiming that, is that my claimed course takes me much nearer the wreck than does Mr. Haight's. That is all I can claim. But beyond that I do not think one will get any

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benefit from diagrams in this case. That is my submission, because we have not got accurate data.

Now, my Lords, I have finished on that part of the case, and I was proposing now—and I can deal with it quite shortly, I think—to deal with the last matter, namely, the cause of the ship's foundering so quickly. I will deal with it very shortly.

LORD MERSEY.—Can't you state it in a few words.

Mr. ASPINALL.—My Lord, what I should have preferred to have done was to have referred your Lordships to the evidence of Mr. Hillhouse. He can do it much better than I can.

LORD MERSEY.—The evidence of Mr. Hillhouse.

Mr. ASPINALL.—Yes, my Lord.

LORD MERSEY.—I asked Mr. Hillhouse what the reason was—however, I understand you refer me to the evidence of Mr. Hillhouse.

Mr. ASPINALL.—What I would like to say a word about is not exactly what caused the ship to founder so quickly, but what caused her to founder so quickly in the way she did, namely, to turn over on her side, because that is the matter we must consider.

LORD MERSEY.—Are you speaking of the list now.

Mr. ASPINALL.—Yes, my Lord, of the big initial list, and Mr. Hillhouse, at pages 602 to 627 (typewritten copy) exhaustively deals with that matter.

Chief Justice McLEOD.—I have no difficulty at all in coming to the conclusion about what made the ship sink so quickly, because the water came into the port-holes along the side.

Mr. ASPINALL.—Well, that is the evidence of Mr. Hillhouse. Mr. Hillhouse naturally, and quite properly, was wishful to claim that his ship would float with two compartments flooded, and I have no doubt that if you got the water evenly distributed over the deck, that is so. But as he himself stated, the circumstances of this case were extremely peculiar, as there was this enormous inrush of water listing her over. Added to that was the weight of the *Storstad*, which, instead of being water-borne, was resting on her side, and helping, and so is a factor to be considered; and then there was the possibility of the boiler on its cradle being disturbed.

LORD MERSEY.—I want to ask you this—you are not concerned with it but Mr. Newcombe is somewhat—but are you going to assist us? I do not want to throw an onus on you, beyond what you are bound to bear, but are you going to assist us by making any suggestions as to how this sudden foundering of the ship might have been avoided?

Mr. ASPINALL.—No, my Lord, I was not.

LORD MERSEY.—Then don't let me tempt you to do things that you are not obliged to do. It may be a very tempting suggestion to you, but do not let me tempt you to do it.

Mr. ASPINALL.—What I am going to do is this, my Lord, that your Lordships, having heard the evidence, and having considered the matter, are in a position to make, when you come to give your report, any suggestions which would, or which might, obviate such a disaster, I am instructed by the Canadian Pacific Railway Company to say that prompt effect shall be given to such recommendation.

LORD MERSEY.—Oh that is another matter altogether; and that observation I do not think is worth much, because our suggestions will be made, if we can make any, not for the Canadian Pacific Railway Company at all, but for the public at large. They will be made for the whole ship-owning world, if we make them.

Mr. ASPINALL.—Yes, my Lord, if your Lordships are in a position to make such. Of course the difficulty again is here that we do not know all the facts. So many people have been lost who might have thrown some light on this matter.

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My Lords, I have finished. If I might be allowed to strike a personal note, and to thank on behalf of myself and the English Bar my American opponent Mr. Haight for the courtesy and the consideration which has been extended by him to me, and also to express my appreciation of the very great assistance I have derived from being associated with my distinguished Canadian colleagues.

LORD MERSEY.—Of course, Mr. Aspinall, we shall need you to reply to the comments that have been made by Mr. Haight.

MR. ASPINALL.—I shall be at your disposal, my Lord.

LORD MERSEY.—Now, Mr. Haight, we are going to hear you, we hope, in the morning.

The Commission thereupon adjourned until ten o'clock on Saturday morning, June 27th.

ELEVENTH DAY.

QUEBEC, Saturday, June 27, 1914.

The Commissioners appointed by the Honourable John Douglas Hazen, the Minister of Marine and Fisheries of Canada, under Part X of the Canada Shipping Act as amended, to enquire into a casualty to the British steamship *Empress of Ireland*, in which the said steamship, belonging to the Canadian Pacific Railway Company, was sunk in collision with the Norwegian Steamship *Storstad*, in the River St. Lawrence, on the morning of Friday, the 29th day of May, 1914, met at Quebec this morning, the twenty-seventh day of June, 1914.

LORD MERSEY.—I think I made a mistake, Mr. Aspinall, when I corrected you yesterday. You said that the official engineer's log was written up at nine o'clock at night. I said that I thought it was made at nine o'clock in the morning.

MR. ASPINALL.—Yes.

LORD MERSEY.—I was wrong.

MR. ASPINALL.—I do not think I am justified in making that point, my Lord.

LORD MERSEY.—That is quite sufficient.

MR. ASPINALL.—I have looked into it and I do not think it is a good point and I withdraw it as to the time it was written up. The observation was made, not in regard to the engineer's log but in regard to the mate's log, and I was wrong.

LORD MERSEY.—Then it is right to say that the mate's log was written up earlier?

MR. ASPINALL.—The mate's log was written up, according to the evidence, before the ship had arrived at Quebec.

LORD MERSEY.—I had in my mind the mate's log when I made that observation. Now, Mr. Haight.

Mr. HAIGHT'S SPEECH.

MR. HAIGHT.—May it please the Court, during the past ten days of this investigation there has occasionally been a ripple over the surface, a ripple of amusement, but I am sure that it has been a surface ripple only and that we have all been conscious of the fact that we are investigating a great tragedy, probably the worst tragedy that has been known in the shipping world. On a clear night, on the wide waters of the St. Lawrence, with the lights all visible, and absolutely no obstruction, only two vessels are

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in view. The course of each vessel is known, the position of each vessel is known and the courses and positions are ones of absolute safety. Suddenly a curtain is drawn and in fifteen minutes the *Empress of Ireland* has disappeared below the surface of the waters and over a thousand souls have gone down with her. The entire world wants to know why. They have gasped with horror at the possibility of such an accident occurring within four or five miles from the shore. Norway, I think, more insistently than anyone else, wants to know how this happened and who was at fault. Before the St. Lawrence was even named Norway was proud of her ships and her sailors.

Captain Kendall has, from the outset, told one persistent story and he has told it here before your Lordships on the stand. He not only says that in a fog when, as every sailor knows, he must keep his course, the *Storstad* changed her course seven points but he says that after she had made that change and after she had with deliberate—almost deliberate—purpose run him down he begged her to keep coming ahead and that in spite of his petition she not only backed away and left the *Empress* to sink but she backed a mile away and allowed the passengers to the number of over a thousand to drown. Norway wants to know if one of her ships, flying her flag and with officers carrying her certificates, has done these things.

When this Court was appointed, a Court which, in point of dignity, equalled the fearful dignity of the disaster, Norway rejoiced. We seized upon the opportunity not grudgingly, we were not dragged here under subpoenas in spite of ourselves. Our crew was placed at the disposal of the Government at once and we welcomed a chance of coming before a Court composed of experienced Admiralty judges, and also experienced practical men in order, without the technical rules of evidence and other delays always incident to Court proceedings, the truth might be ascertained. I conceive, my Lords, that it is particularly fortunate that this is not a legal proceeding, that this is an investigation and that it is unhampered in every way. My only regret is that I should have played so active a part in it. I would have wished that my witnesses might all have been examined by an impartial advocate. I have tried to be impartial but in spite of everything an atmosphere of partisanship must surround the evidence when counsel for one vessel or for the other is examining the witnesses and opposing counsel is cross-examining. I would have wished that it might have been practicable for every witness in this case to have given his evidence without any of the atmosphere of partisanship. That, however, did not seem practicable and I can only hope that the evidence has come before your Lordships in such a way as to cause the impression to be left that at least an effort was made to produce it frankly and honestly.

I conceive, my Lords, that there is but one point in this case. Both sides admit that the accident was absolutely inexcusable. Both sides admit that the vessels were on safe passing courses and that the position of each vessel was known. Both sides contend that it is the elementary duty of every sailor, when he has passed into a fog, to maintain the known course which he held before the fog shut him out. There was not a cabin boy on either vessel who did not know that simple, primary rule of navigation in a fog. That the collision was possible was only due to the fact that after the fog shut in a radical change in course was made by one ship or the other. Had both vessels maintained their courses they would have passed anywhere from half a mile to two miles clear and this court would never have been convened. The question is, therefore, as I see it: Which ship changed her course? All other questions sink into absolute unimportance. I submit also that this is a case in which there can be no question of division of damage, no finding of mutual fault. If the *Storstad* changed her course—

LORD MERSEY.—Will you repeat that?

Mr. HAIGHT.—I submit that the case is one in which the court will never find that both vessels were at fault. If the *Storstad* changed her course I have absolutely no complaint to make against the *Empress*. I do not care where her lookout was, I do

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not care what her speed was, I do not care whether she reversed or stopped; if, on her course, the *Storstad* ran her down, the *Storstad* alone is at fault and I have no excuse to make for her navigation. Similarly, I submit to your Lordships, that if the *Empress* changed her course, if she, a great passenger steamer with 1,500 souls aboard, exposed her starboard side to my vessel while the *Storstad* was on her course, her case is absolutely indefensible and she can be heard to make no excuse.

The case necessarily involves a question of veracity. I agree absolutely in the opinion expressed by my learned friend (Mr. Aspinall) that this case must be handled with courage and that we must confront the fact that one story or the other is false. It is not pleasant to discuss any case on the question of personal veracity. I would far rather have argued a question of law than speak on the question of fact. I would far rather have argued that either one side or the other was mistaken and not deliberately mis-stating facts, but I can see no way in which the court can escape from the primary conclusion that what was done on one ship or the other, namely the change in her course, was known when it was done. No ship could inadvertently change seven points. There are compasses and in a fog the compasses are watched and a ship that changed her course from N 72 E to N E, or a ship that changed her course from W by S seven points knew that she made the change when she made it and before this Tribunal the witnesses from the vessel so changing its course have deliberately falsified their testimony.

The case involves the necessity of building up a solution which is based upon theory. Your Lordships were invited yesterday by my learned friend to decide this case upon the evidence. But, if you find that one ship or the other changed, as you must, you can find no direct evidence of that change. Neither vessel saw the other change. Each vessel denies that she herself changed and yet the change was made. Direct evidence will never help us—it would help us, but direct evidence cannot possibly be found from any eye-witnesses who saw the change except from witnesses on the boat which made the change, and they refuse to tell. The case from the outset was to me more than perplexing because I found it absolutely impossible to find in my own mind a reason for the change which admittedly had been made. The question which was persistently put by the court during the early days of the investigation to witnesses on both sides shows that your Lordships have laboured under the same difficulty. Why should the *Empress* change, was asked of Captain Andersen. Why, if she was in a position of absolute safety, red to red when the fog shut out should she throw herself across the bow of the *Storstad*? To the witnesses from the *Empress* the same question was put: Why should the *Storstad* have changed her course seven points when she was on her way to Father Point and run straight for the north shore? That is a difficult question to answer, if we are working upon the theory that the officers of both boats were reasonable human beings and that the change of course was deliberately made. For my part, like Captain Andersen, I pondered the question over and I could reach no conclusion. I now submit that this court will find that if, as I say, the officers of these two vessels were rational beings, were not mad men, the change in course was not made deliberately, but was due to some circumstance which has not been definitely testified to but to which we may nevertheless look for a solution. What was it that caused such men, men of at least ordinary intelligence, to suddenly make a sheer which apparently caused this disaster? I can think of only three possible reasons. I should say in the first place that there is no charge that our boat did not steer. On the contrary, Mr. Aspinall bases his entire case on the proposition that we could steer, that our ship navigated well, that she did steer and indeed that she had such great facility in steering that with her wheel a-port one minute after she had been slowed for two minutes and stopped for three or four she ran a mile and changed her heading seven points. Our steering qualities are not only admitted but are made the basis of the argument by the other side. The *Empress* might not have steered had she dropped her rudder, but her rudder did not drop. She

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may not have steered well if she was by design a poor steering vessel. She might have encountered this sheer by her steering apparatus, normally sufficient for her needs, suddenly becoming deranged. I doubt if your Lordships can find any other reason to explain the sheer on the part of the *Empress* which will appeal to your Lordship's intelligence. A deliberate sheer I discount absolutely. I never shall believe that Capt. Kendall, knowing that a vessel was on his portbow, deliberately turned his splendid ship, with all her passengers aboard, straight across our path and then stopped his engines to lie inert while we were coming through the fog ignorant of his position inevitably to run him down.

We have evidence as to the steering qualities of the *Empress* and also as to her steering gear. As to her steering qualities, it is admitted by Mr. Hillhouse that her design was a departure. He justified it at first upon the stand that his concern had nothing to do with the design of the ship. It developed immediately on cross-examination that the designer, a gentleman eminent in his profession, had within a very short time been the head of his yard and that Mr. Hillhouse himself had worked on the vessel's designs. He knew the outline of her stern, he knew all about it and he knew that when she was designed it was a departure. Mr. Reid has testified that a vessel full at the stern, as this vessel was built, was not only an innovation at the time, but, as I understood him, it was an innovation that was not followed in detail. Mr. Reid states that the percentage of rudder originally allowed her was below the normal and Mr. Hillhouse admits that the rudder had to be changed. He knew that it was changed because of complaints about the vessel's steering qualities. He did say that the rudder of the *Empress of Ireland* had been damaged and that when the damage was being repaired they took advantage of the opportunity to increase the area of the rudder in order that her steering qualities, which previously had been good enough, might be made some better. It appeared, however, that the *Empress of Britain*, which had encountered no accident, had received the same attention and that her rudder also was changed. Mr. Reid says to-day that a vessel built as the *Empress of Ireland* was needs a percentage of rudder of about 2.4 and Mr. Hillhouse takes thirteen vessels and says that the average percentage is much lower.

LORD MERSEY.—Is what?

Mr. HAIGHT.—That the average percentage of rudder is much lower than that. I did not go into an extended cross-examination as to the formation of each one of the thirteen vessels which he took but surely the stern of the *Aquitania* is not shaped round and full as this vessel was. If you have a full stern you have eddying; you stop the steady current of water against your rudder, and the steering is affected. I realize that it is rather radical to say that the designer of this ship made a mistake and I would not so suggest but for the fact that a mistake was made and that the rudders of both vessels were changed. Some mistake originally was certainly made.

Next, we have direct evidence of how this vessel did steer—not theory—but practice. The *Alden*, only three or four hours before this tragedy, was bound up the St. Lawrence as the *Storstad* was coming some miles behind. She encountered the *Empress* bound down on this memorable voyage. Three men from the *Alden* were called to appear before this court. They were foreigners, they talked no English, but I believe your Lordship must have been impressed by their story. One man was as pitiable an exhibition of stage fright as I ever saw but he told us his story and, as I recollect, your Lordship (Lord Mersey) said, when he left the stand: Don't let that boy go away with the idea that he has done no good. Their testimony was that the *Empress* crowded them clear up on the north shore, that they saw her coming down, first showing one light, then both, then red, then both and then green, zig-zagging back and forth and making the complete change four or five times. The pilot of the *Alden* was called. He was a Frenchman. He knew what he had seen and he had no difficulty in expressing himself. His story was, to my view of the case,

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one of the most direct and definite that has come before the court. He said: When I meet a vessel, I show her my port light and I expect her to do the same to me, but she came down the river zig-zagging back and forth and I was afraid of a collision; I ported my wheel, I was crowded up on the shore and I was afraid of a collision until the vessels were about three-quarters of a mile or a mile apart when she finally assumed and kept the port-to-port course and went by. The question was asked him: Why did you not slow your ship down if you were so afraid of a collision? The answer is quite obvious. Here was a nine-knot vessel bound up the river against a strong tide. I should say that the current as I recollect it, at that point is a current of four to five knots. The best he could do was only four knots at that point? Surely there was no occasion, when this vessel was a mile away from him, to reduce his speed on so slow a boat. He changed his course, he could get in towards shore and he did, but, according to his statement, the time had not come to stop or slow this vessel of his to clear the *Empress*.

Why should the *Empress* turn and zig-zag back and forth on the St. Lawrence when going down only three or four hours before this accident? Surely it was not intentional; surely the officers on the bridge were doing all they could to steer a straight course. They were not executing any fancy steps and the best they could do was a course so irregular and so swinging from side to side as to shut out entirely one light and then the other. I do not think your Lordships will follow my learned friend when he invites you to believe that these men had no recollection of the incident. It was an incident which would naturally impress itself on the mind of a sailor and surely it was emphasized next morning by the news of the fearful tragedy which had taken place four or five hours later. Naturally the pilot knew the *Empress*, naturally he told the men who the *Empress* was and they would not be expected to forget the incident in the light of subsequent events. I submit that, on the evidence from the *Alden*, your Lordships will believe that whatever her design was, whatever the percentage of her rudder, on the night of this tragedy she was not steering well. Lapierre had no reason to be otherwise than truthful. He had good reason to favour the *Empress* herself. He is a Frenchman, he is a pilot on the St. Lawrence which conclusively proves that the ambition of his calling leads him towards the C.P.R. boats. The C.P.R. pilots are the best men, they are the best paid men and the *Empress of Ireland* was one of the boats of which the Canadian people and the St. Lawrence people were proud. Lapierre, brought here into the stand under subpoena, substantiates, and more than emphasises, the story told by the witnesses from the *Alden* herself. If we consider that proposition, if it is proved that for some reason unexplained the boat was steering badly four hours before the accident, we will wish to find some direct evidence as to why she steered badly and as I have said the best evidence is the condition of her steering gear. Fortunately, we have in this case direct evidence grudgingly given which, to my mind, is absolutely conclusive. I start with Murphy, the quartermaster of the *Empress*, the man who, when put upon the stand says that she is one of the best steering vessels in the world, that she always steers well. Yet, what is the real fact that he contributes to the case? He says: Of course, sometimes, when you put the wheel over she won't come but all you have to do then is to put the wheel back amidships then put her over a second time and she will come. At page 662 he testifies:—

It might be that it does not catch, and what you have to do is to put your wheel back amidships and give it the helm and it will catch right away.

I asked what he meant by "sometimes" and he eventually said that sometimes meant once and that that one occasion was two years ago. My learned friend suggested yesterday that perhaps the cogs did not catch. I had supposed that after a discussion of many days on the subject of the telemotor it had become obvious that the steering gear system of the *Empress* was not one of cogs but that it was one

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of hydraulic pressure—no wheels but a continuous line of fluid. You cannot explain Murphy's testimony on any theory of cog wheels. If you have a continuous system in your pipes when you turn your wheel it does catch. I think that the assessors will reach the conclusion, and that your Lordships will also reach it even without your assessors, that the only possible explanation as to why at times the *Empress* wheel had to be put over, then back, then over again, was because the continuity of the fluid in the piping had been broken.

The next definite information we have comes from O'Donovan, the engineer in charge of the steering gear. For eight months he was the man whose duty it was to overhaul and inspect this gear. No one else has come before the Court who even pretends to have had the slightest part in any investigation, or to have had the slightest duty to investigate, the condition of the steering gear. He testifies at page 771 that he did not even know where the pipes of the system were and that during the eight months that he was entrusted with this vital part of the machinery he never inspected it. He testifies also as to the inspection which he made on the day that the *Empress* left Quebec on her voyage across. What was that inspection? He went into the wheelhouse and tried the wheel. In the wheelhouse there was a gauge which showed whether or not the fluid in the piping filled the entire system. After he had turned his wheel over and had looked at the gauge, what did he do? He went below where the pump is located from which glycerine may be pumped into the system from a reserve tank and he pumped for ten minutes. He then went back on the bridge, looked at his gauge and found that he had pumped in enough. What can such evidence mean when we stop to consider it when the man whose duty it is to inspect, finds upon inspection, that his gauge is empty and, from a turning of the wheel and a view of the gauge, thinks that he must pump ten minutes in order to restore the system to its proper pressure? Surely your Lordships will find that the engineer who does such a thing knows that the fluid in the system has disappeared somewhere as the evidence is perfectly conclusive that the system, if in working order, is watertight. Loss of liquid can only be accounted for by a leak and this condition existed after the vessel had been lying in Quebec for some days and if he had to pump for ten minutes. He does not run down the line of pipe to find where the leak is, he does not test his valves to see if they are leaking, he pumps for ten minutes and he lets it go at that.

There is no testimony in this case which indicates or suggests that on this vessel there was a tank which automatically fed into that system. I quite agree with my learned friend that in a modern system there is such a tank but if there was such a tank on the *Empress* it must mean that the leaks had not only run the glycerine out of the pipes themselves but that the additional supply in the tank, which is normally situated in the pilot house with the gauge, had disappeared also.

LORD MERSEY.—Can you refer me to the part of the evidence in which a tank was mentioned.

Mr. HAIGHT.—I think the only mention of a tank is at page 805 and that is in O'Donovan's testimony.

LORD MERSEY.—Will you read it to me?

Mr. HAIGHT.—It is question 541:

'Is it fresh water or water and glycerine that you pump into the cylinder?—

A. Water and glycerine.

Q. That is you have a tank of the mixture somewhere?—A. Yes.'

LORD MERSEY.—Who is examining?

Mr. HAIGHT.—I am, sir.

'Q. And your pump connects with that tank?—A. Yes.'

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That is the only tank referred to and is the tank with which his pump was connected and it therefore was located near the pump.

LORD MERSEY.—How is the tank filled?

MR. HAIGHT.—There is no evidence but such information as I have obtained on the subject indicates that there is a supply tank down near the steering engine.

LORD MERSEY.—You must not tell us things that are not in the evidence. You referred to a tank; my memory may not be as good as it ought to be and I had entirely forgotten what tank it was that you referred to. That is why I asked you to give me the reference.

MR. HAIGHT.—He was stating that he had gone down to pump her up. The question was:

‘That is you have a tank of the mixture somewhere?—A. Yes.’

The natural inference to be drawn is that the tank from which he pumped was near the pump.

The other direct evidence in the case is that of Galway.

Chief Justice McLEOD.—Will you give me the page of that?

MR. HAIGHT.—I was not referring to a particular page but rather to the testimony as a whole. His testimony begins at page 600 and runs through a considerable number of pages. Your Lordships will, I am sure, realise that while I have conducted the case as counsel for the *Storstad*, I have had none of the privileges that counsel usually enjoy in the way of selecting the order in which witnesses shall be put upon the stand. Galway was unquestionably called out of order. Had it been possible, in my judgment to properly present this case without calling him at all, I would gladly have done so and were it possible now to argue this case without any reference to his testimony I would so argue it. I know that the impression which he made at the time was bad. I knew when he was called that his testimony had in advance been discredited. I thoroughly realised that it would be considered the testimony of a man who had come to me with evidence to sell and who could be had at a price. But as your Lordships look back at the incident is it not changed a little in perspective? Does not that testimony assume a little different colour? Boys of lowly birth—

LORD MERSEY.—What?

MR. HAIGHT.—Boys of lowly birth have in times past done brave things and English boys are among the number. He certainly had some courage. If he wanted to sell his testimony at the start, when he went into the box at least he knew that no pieces of silver were to follow it. He submitted himself to a cross-examination which would have tested any man and he stood the ordeal fairly well. My learned friend commented yesterday upon the fact that certainly Galway would have had no friendly feeling for him and would have made no admissions willingly if it would help him. I think that is quite true. His cross-examination was characterized by an unsparing use of the lash—quite justified—I have no criticism to make because my learned friend felt at the time, and your Lordships, I think, felt, that he was examining a deliberate perjurer. But I submit once more that there may be a very serious question on that point. I do not think he would have done what he did, knowing that there was to be no compensation, if he had not, as he himself said, wanted to tell the truth. He had lost his mate and as I see the case, he felt strongly as other people would, a moral obligation to tell the truth. The Court will not overlook the fact that when he stood on the stand it was not the first occasion upon which he had told the story. He had told it in detail to counsel for the C.P.R., he had told it later in detail to Captain Walsh, he had been told by counsel that he must remain in case they wanted his testimony because they felt in honour bound not to let him go; yet, after he was told that he must stay by counsel, he was told to go.

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Your Lordships will remember also that another point of his evidence which was given for the first time has subsequently been corroborated. He said that the *Empress* blew a signal of one whistle and that he thought the *Empress* was stopped. A one whistle signal had never been mentioned by any witness from the *Empress* up to that time but it has been frequently mentioned since. I do not presume to think that my personal opinion will carry weight but for my part I felt, after Mr. Newcombe and Mr. Johnston had cross-examined the boy, and I had cross-examined the boy, that he was telling the truth. If your Lordships, in searching for a reason, shall find that there was a sheer—

LORD MERSEY.—You say Mr. Johnston cross-examined him?

Mr. HAIGHT.—The testimony shows that Mr. Newcombe and Mr. Johnston came to my room and saw Galway—

LORD MERSEY.—I see what you mean.

Mr. HAIGHT.—Before any decision was reached, questions were put to him. Personally I believed the boy to be telling the truth.

LORD MERSEY.—You should not say that. It is contrary to all precedent for counsel to state his personal convictions as to the truth of a witness.

Mr. HAIGHT.—I withdraw the remark.

LORD MERSEY.—You must leave that to us.

Mr. HAIGHT.—I quite agree. If his testimony is found to be true it supplies a reason for this accident, it supplies the answer to the question why the *Empress* changed her course.

My learned friend admitted that if the wheel jams, that if you put your wheel over and it jams, and you cannot get it back, the vessel will sheer. She did sheer, it seems to me, and if so that is the explanation not only of the sheer but of one other feature of the case which has, I think, also perplexed the court. Why did Captain Kendall, with a vessel, according to his story, a point on his starboard bow and two miles away, and according to Jones' story, two or three points on her starboard bow, and three miles away—why, under these circumstances, with the vessels green to green, and the lights of this vessel still showing through the mist, did Captain Kendall resort to the extraordinary manoeuvre of putting his engines full speed astern?

LORD MERSEY.—Have you left Galway?

Mr. HAIGHT.—I have.

LORD MERSEY.—There is one matter that I should like you to make an observation upon. Galway, you remember, made a statement to somebody connected with the press about the disaster to the *Empress*. In the witness box he told us that the most important circumstance—he called it the main asset—was a sufficiency of steering gear. He never mentioned that circumstance apparently to the reporter. How do you account for that?

Mr. HAIGHT.—I had at the time and I still have that interview. I have never read the whole of it, but I do not think it contained a reference to Galway's statement made to counsel and to Captain Walsh. I have no doubt that any man on the *Empress* would have had, immediately after the accident, some hesitation about stating broadcast through the newspapers that he had himself been at the wheel and that the steering gear had jammed.

LORD MERSEY.—At all events, that is your explanation?

Mr. HAIGHT.—I know of no other and I have no means of knowing how accurate the report was nor do I really know exactly all he said but I think it is true that the interview does contain no mention of the steering gear.

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LORD MERSEY.—Now, I have interrupted you; you were talking about Captain Kendall.

Mr. HAIGHT.—Yes, I was saying that if the steering gear of the *Empress* broke down we have an explanation of that which is otherwise one of the most surprising manœuvres ever testified to in open court. I think that the assessors will agree with me and that your Lordships without your assessors will agree with me, that no man who has seen water in larger quantities than are contained in a hand basin would believe that an experienced navigator, with a vessel the lights of which were still showing green to green, two miles, or three miles, or four miles away, and anywhere from one to three points on his starboard bow, would put his engines full speed astern and bring his great steamer to a dead standstill in two lengths. That means, and Captain Kendall means that your Lordships shall believe, that the engines were put from full speed ahead to full speed astern and that only by that extraordinary manœuvre could his ship be stopped. I think the assessors will find some difficulty in accepting the proposition that it could so be stopped. But does the great passenger boat ordinarily put her engines full speed astern when only one ship is on the face of the waters and that vessel is four miles away, or two miles away when they are showing green to green and on a course which means a clearance of from half a mile to two miles and over?

My learned friend has invited your Lordships to find that parts of my story are not true. I say that I defy my learned friend to find one man who knows anything about navigation who will believe that Captain Kendall put his engines full speed astern when the lights of the *Storstad* could still be seen and when he knew they were on a course that meant a clearance of from half a mile to two miles. It is perfectly inconceivable that any man would risk the wrecking of his entire engine-room by ordering such a manœuvre.

LORD MERSEY.—Will you refer me to the evidence of the engineer as to how that order was carried out? Can you do that? What I mean, Mr. Haight, is this: I do not remember that it is said that the order was carried out in any other way than a proper manner—that is to say, gradually, not turning the engines suddenly from full speed ahead to full speed astern.

Mr. HAIGHT.—I will give your Lordship the reference in a moment. Your Lordship will remember that the engineer in charge testified that the telegraph was rung in one motion from full speed ahead to full speed astern. There was no stop order in between.

LORD MERSEY.—I know, but I had it in my head that while a sudden movement might go a long way towards wrecking the engines it was not done in that way.

Mr. HAIGHT.—Precisely what he said, if my recollection is correct, is that after leaving Father Point where he got his order full speed ahead, he opened his throttle gradually, and that up to the time of his full speed astern order, he had not yet got his engines going full speed ahead, but that on this particular occasion when he was ordered to put her full speed astern within three minutes he had his valve wide open and his engines going full speed backwards.

LORD MERSEY.—Will you give me that reference if you can? If you cannot, leave it to me to find it and I will find it afterwards.

Mr. HAIGHT.—I cannot at the moment—

LORD MERSEY.—Never mind, I will look for it afterwards.

Mr. HAIGHT.—If your Lordship will be inconvenienced at all by so doing I shall be very glad to make an abstract of our evidence on these particular points.

LORD MERSEY.—No, I shall not trouble you to do that. I shall look over this evidence and I shall be able to find it, I have no doubt.

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Mr. ASPINALL.—I have it here.

LORD MERSEY.—What page is it?

Mr. ASPINALL.—It is at page 489.

Mr. HAIGHT.—It commences at page 489 and then runs to 490. What I was referring to appears on page 489 and it begins with question 347.

LORD MERSEY.—If you have the evidence will you read it to us?

Mr. HAIGHT.—Yes, my Lord.

‘When you receive your order to put your engines full speed astern from full speed ahead, do you shut your steam off, throw your reversing gear and then gradually let the steam in, or do you change directly from full speed ahead to full speed astern without shutting the steam off?—A. No.’

LORD MERSEY.—That is the evidence I was thinking about.

Mr. HAIGHT.—Yes.

‘Q. That would not be advisable?—A. No.

‘Q. How long would it take from the time you got your full speed astern order before you got her really going full speed astern?—A. A matter of seconds.’

Q. As soon as you get your reversing gear over, do you give her full steam?—A. Gradually.

Q. Have you any idea how many revolutions you got your engines going full speed astern before you got her stopped?—A. No.

Q. She would not really be making seventy turns?—A. That I could not say.

Q. In 19 minutes you did not get your throttle full open going ahead; did you get it fully open going astern before you got your order to stop?—A. I beg your pardon.

Q. Did you get your throttle open the full way after the reversing order during the three minutes you were reversing before you got the order to stop?—

A. The stop valve full open going full speed astern.’

LORD MERSEY.—That is what I wanted.

Mr. HAIGHT.—Then, at page 493, the next witness, Liddell, who was the engineer in charge of the engines on the other side of the ship gives this testimony:—

‘Q. Do you remember at any time getting any telegraph from the bridge as to the movements of your engines?—A. Yes.

Q. What ones do you remember, shortly or briefly, shortly before the collision?—A. Yes.

Q. You might tell these to the court.—A. From full speed ahead to stop to full speed astern on the same order.

Q. Three?—A. The telegraph stood full speed ahead and it was turned around to stop and full speed astern.

Q. Was that order carried out?—A. Yes.’

Capt. Kendall evidently believed that his engines were put immediately full speed astern because he testifies that he was stopped in two minutes, that he went to the side, that he looked over, that he saw the water and that she was dead. That, according to the evidence, could only be the result of an almost instantaneous change from full speed ahead to full speed astern.

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LORD MERSEY.—Get Capt. Kendall's evidence and read it to us if it is convenient. (After a brief interval.) Never mind, Mr. Haight; I do not like to interrupt you. Go on with your story.

Mr. HAIGHT.—I submit, therefore, that there is an explanation to be found for this surprising order if it is true that something had gone wrong with the steering gear. If, as I think the evidence shows, the *Empress*, when the fog first shut in, blew one whistle and we answered, and she blew one whistle again and we answered and then, suddenly, something happened to the steering gear, there was every reason in the world why these engines should be ordered full speed astern from full speed ahead and every reason why it should be done at once. He was then in a critical position, he had changed his course deliberately so as to bring us one point on the starboard bow. It is, as my learned friend felicitously put it, very important to his case that this reversing order should be given when the vessels were a long way apart. Capt. Kendall denies that he ever blew one blast. If he did in the fog blow single blasts and these blasts were blown for two minutes, during the time the two vessels were approaching each other, and that distance between them was closing up and then, if something goes wrong with the steering gear, he must put his engines full speed astern and he must do it at once. He has no time, as the ordinary navigator would do, to put his telegraph to "stop," to give the engineers time to shut off their steam and then, after a reasonable interval, to order the vessel full speed astern; he must, whatever it may cost, put his engines from full speed ahead to full speed astern and that is what he says he did. I cannot believe that there is any rational explanation for the order which he admits he gave except an emergency and certainly no emergency confronted him with a vessel from two to four miles away on an apparently safe clearing course and her lights still visible. Your Lordship asked for the evidence as to Capt. Kendall's manoeuvre in connection with the reversing of the engines. That is found at page 151:—

"Q. How far do you think your vessel ran——"

That is after the reversing signal.

"A. About two ship's lengths.

Q. That is from the first signal of three whistles to the second signal of two whistles?—A. Yes."

Your Lordship will remember that he says that he blew three, then three, then two, then two, and he says that from the first signal of three to the second signal of two the time elapsing was sufficient only for his vessel to go two ship's lengths; that is from the first signal of three to the second of two.

"Q. That is during the five minutes you were blowing the four signals you think you only ran—A. Two lengths.

Q. Only two lengths?—A. Yes.

Q. And during that entire time you think you maintained your heading?—A. I did."

Now, I submit to your Lordships that there is a good deal of testimony to be derived in the way of the substantiation of my theory that the steering gear broke down. The orders that Captain Kendall gave, the things he did when the *Empress* first sighted the *Storstad* coming out of the fog, seemed to indicate not that an emergency was confronting the cool, deliberate, efficient, British Master, but that the Master had for some reason already lost his balance. The whole testimony as to what he did is feverish, it is absolutely different from what you would expect to find with reference to a man who, in a crisis, must act with a cool head. The fact that he saw the *Storstad* coming out from the fog was perhaps in itself enough to throw him completely off his balance but if, two or three minutes before, he had found that his steering gear was jammed, that his

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vessel was sheering to port, and if he knew that that sheer would carry him across the course of another vessel and expose his side to her at the particular instant when the final emergency arose it is not surprising that we find Captain Kendall making frantic efforts to get his gear clear and prepared for the final emergency. Let me repeat to your Lordships what Kendall says he did. With a vessel 600 feet away, going at a speed which throws a bow wave from it that he can see in spite of the dark, in spite of the fog, and in spite of his elevation from the water, his first act when he sees the *Storstad* is to order her to go astern. Surely, at 100 feet, with a speed of ten knots, that was a very futile thing to do. She could not stop; that was impossible. His next order was to send his first officer to the lifeboats to get them ready. Why send the first officer from the bridge to get the lifeboats ready? At his hand was the pull for the siren whistle which was the signal not for the first officer but for every man on the ship to man the boats and to every man on the ship to close the watertight doors.

LORD MERSEY.—How soon after the *Storstad* was sighted and it was obvious that there must be a collision was the siren pulled?

Mr. HAIGHT.—As I read the evidence it means that the siren was never blown until the stewards had lighted the emergency lamps and called the passengers and had gone to the deck when the vessel was listing so far that the port boats were practically out of commission.

LORD MERSEY.—Is it your suggestion that the siren was not pulled till afterwards?

Mr. HAIGHT.—Long after the collision as we measure time in such an awful emergency. The second order was to send the chief officer to order the men to the boats leaving the siren which would have sent every man to the boats and to the water-tight doors unsounded. His third order was to ring the engines full speed ahead and put the wheel hard a-port. Surely that order was worse than futile. He says that he gave that order because he could see both lights of the *Storstad*. That means that she was on her course heading for his bridge. If, as he says, his vessel was dead in the water and if he had allowed her to remain dead in the water the collision would have taken place at his bridge and not 120 feet aft in the vitals of the ship. Surely it is hard to understand why the order of full speed ahead was given when lying still would have been comparatively safe and putting the engines full speed astern might have brought him aft enough to have caused the collision to occur in a less vulnerable place.

LORD MERSEY.—Did you say lying still?

Mr. HAIGHT.—That is the story; lying dead in the water.

LORD MERSEY.—What you say is that if he had been lying still he would have been comparatively safe. If his story is true, lying still would not have prevented the collision.

Mr. HAIGHT.—I said comparatively safe, My Lord.

LORD MERSEY.—I do not know what that means; I should not think that it would have prevented the collision.

Mr. HAIGHT.—By no means, but if you must have a collision, a collision forward of the bridge is comparatively safe as compared with a collision at the boiler space. If his story be true that he had been dead in the water for five minutes and that he saw us coming out showing him both lights, it means that the vessel was headed straight for him and that she would have hit him at the bridge.

LORD MERSEY.—I understand that you are mentioning these matters only to show that Captain Kendall lost his head.

Mr. HAIGHT.—I am, My Lord.

LORD MERSEY.—If his evidence be true, this ship, the *Storstad*, suddenly appeared within 100 feet of him in such a position that a collision was inevitable. Even though that may show that under these circumstances he lost his head, it does not go to the

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point of the case as to who was responsible for the position in which the two ships found themselves at the moment when it became apparent that a collision was inevitable.

MR. HAIGHT.—That is quite true, my Lord. Captain Kendall has appeared to me to be a man who, under ordinary circumstances, would be equal to an emergency—cool and efficient. But it seemed to me a reasonable excuse to make for the orders which he gave to say that something had happened before and that when the final emergency occurred he was making a frantic effort to get his steering gear clear; that he therefore was unprepared and that the chaotic condition of his orders was the result. I may be putting too much emphasis on this.

LORD MERSEY.—I want to appreciate what you say. Will you tell me what were the frantic efforts in which you suggest that he was engaged in order to get the defective steering gear to go the proper way.

MR. HAIGHT.—My suggestion would be—

LORD MERSEY.—Who would be the men who would be employed in carrying out that effort?

MR. HAIGHT.—My suggestion would be that there would be one or two men at the wheel trying to do what Murphy said that at times he could do: bring the wheel back to amidships and try it again and see if it would not go.

LORD MERSEY.—Who would these one or two men be?

MR. HAIGHT.—Of course, I am theorizing, purely.

LORD MERSEY.—Would they be any of the persons who have been in the witness box?

MR. HAIGHT.—The officer on the bridge, as I understand it, lost his life. One of them, Mr. Jones, was on the witness stand, as was Captain Kendall.

LORD MERSEY.—Was it suggested to Jones that he was making efforts to put the steering gear in order?

MR. HAIGHT.—No, my Lord. I do not remember when Mr. Jones was called, but I think it was before any of the steering gear testimony had been in.

LORD MERSEY.—Before the steering gear testimony had been given; I think you are right there. But it was not before he had become aware of the fact, if it be a fact, that that steering gear had been unsatisfactory.

MR. HAIGHT.—When Captain Anderson was on the stand and was asked by your Lordship if he could explain why the *Empress* sheered, and said he could not—he had thought it over and he could reach no solution—he expressed not only his own state of mind but mine as well. I did not then know how even to attempt to explain the *Empress'* change of course.

LORD MERSEY.—I understand your suggestion to be that Captain Kendall may have been distracted and that his attention may have been taken away by efforts to put in order the defective steering gear.

MR. HAIGHT.—I do not wish to lay too much emphasis on that proceeding, but it did seem to me to be a possible reason for a condition in respect of the orders which otherwise is very difficult for me to explain.

There is, my Lords, another way of approaching this case, and, I will admit, the more usual way. That would be to take the story as actually told by both sides, resort to no theorizing; test each story by the facts which are known, and, having so tested each story, decide which is the more likely to be true, and then discredit the other without any explanation as to why the other vessel changed. That is a method of decision which is often resorted to. But we have here not a legal proceeding but an official investigation, and I have no doubt that your Lordships share the anxiety of

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the world at large to find some reason for this occurrence and that you will be glad to report, if you can do so, not only that one vessel changed her course, but why she did so, endeavouring to arrive at some explanation other than that it was an act of absolute madness.

Now, let me take up the testimony briefly on the two stories and see how the facts which are testified to by the witnesses on each side fit in with the facts which we know to be true. My learned friend yesterday, in referring to the statement which was read from his side of the case, expressed a certain amount of admiration, and, as I understood him, a certain amount of surprise, that his witnesses had really testified in accordance with that written statement. He felicitated his side of the case because he had substantially everything that had been said in the statement as presented. Your Lordships will remember that my statement was made in open court and quite without preparation. I had no chance carefully to weigh my words. I had seen the other statement for about sixty seconds. I stated then merely the story that my witnesses had been telling me during the two days preceding. I did not have time nor opportunity to weigh my story as against his. I told it fully, and it contained with other information a definite statement that we ported our wheel and that we hard a-ported our wheel, and I explained why both of these manœuvres took place. We never sought to conceal the fact that our wheel had been put hard a-port; we never thought that there was any reason why we should conceal that fact, nor do I see any reason now. Our deck testimony absolutely holds together: the lookout, the quartermaster, the first officer, the third officer and the Captain. In so far as the various witnesses that I called saw the facts, those facts as they state them absolutely fit together.

It is suggested that it was very important to Captain Andersen's story that he should have looked at the compass and that he should have looked over the side to see if the ship were moving; that it was very important to our side of the case that each of the witnesses should have testified as he did testify. It was important to our case, unquestionably. It is always important to your case that your facts should be fully and truthfully stated. But my friends single out some one for a great compliment, if it is suggested that the story told by the witnesses from my deck is a pure piece of fabrication. The man who could conceive the story as they told it would be equal to the genius who plays seven games of chess without looking at any board. The man who could have conceived the story first and so drilled and instructed the men, some of whom cannot talk the English language, that they would be able to stick to that story without lapse or contradiction, would have had a crew composed of men of a mental calibre which is very hard to find; I think they would have been the peers of the chess man. These men told a consistent and perfectly straight story; I shall not repeat it now. Our courses were known; our courses were given. First we are off Metis Point; then there is a change of a quarter of a point; then a course west by south. The man on our bridge and our lookout saw the *Empress*; saw the lights at Father Point. There was no doubt in the minds of our witnesses as to what lights the *Empress* showed. They saw first the mast-head lights, then the green light and then the red light, and our testimony is absolutely homogeneous on the proposition that the *Empress* had changed her course, as in law I submit she was required to do, by porting her wheel and to go under our stern. We saw her red light when the fog shut her out, and we navigated with absolute reference to the course which she then had, in absolute reliance upon the assumption that that course would not be changed, and in full realization of the fact that our course must not be changed. The merest novice knows that rule.

My friend thinks it is surprising that my quarter-master looked at the compass; that my third officer, who was pulling the whistle and who stood next the compass, looked at it, and that the Captain, when he came on the bridge, looked at it. In my judgment it would be indeed surprising, if, knowing that a vessel was ahead; knowing

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her course and knowing our own course, those witnesses had shut up their compass, put out the binnacle light and said: What is the use of looking at the compass? We are all right; let us go ahead.

Now, much has been said about our porting order; we are said to have caused this collision solely by that porting order. Unless all our men are deliberately per-juring themselves as to the compass, the porting order has absolutely no significance. I submit to your Lordships that the explanation of that porting order, given frankly at the start—an order which was never sought to be concealed—is the true explanation. The third officer, when he was asked: why did you get the order to port? said: I do not know; I was not in command; I was not told. Your Lordship said: well, why did you think that you got the order? He said: I thought that the current was the reason. Toftenes says that these whistles were coming close and he was anxious that his vessel should keep her course. It was not vital that she should keep her course; had we collided with them steering anything but west by south we would have been at fault; if our engines had been stopped long enough our control might have run off, and there was a current. There was a question yesterday with regard to the testimony as to whether there is a current. It is the testimony of Captain Kendall upon which I rely in this respect, in which he says at page 152: 'it runs about one and a half to two knots per hour.' There are many other references on the subject, if the Court wishes them, but the Government chart shows a current. Captain Kendall admits a current and it seems to me quite futile to call Wotherspoon to show that Captain Kendall is wrong, that the charts are wrong and that our witnesses are all wrong; that, as a matter of fact, there was no current and that the Government surveyors were in error when they were plotting the charts and making their observations.

Much criticism has been made regarding our scrap log. Let me take first our scrap deck log. It was brought out that Toftenes did not, when he first saw the fog along the shore four miles away, go into his chart-room and write down: 1.47, I have just seen some fog four miles on the port side. He is criticised for not having entered at the time the fact that the fog shut the *Empress* out from view, and the doubting finger is pointed at him because after the collision he made those two entries. They do not suggest, my Lords, that the entries are false. Nobody denies that at that time there was fog along the shore; nobody denies that at that time fog shut out the *Empress*, but the man is discredited, forsooth, because he did not make the entries when the events occurred. My friends apparently would suggest that when the fog shut the *Empress* out from sight, in order to do his full duty Toftenes should have gone into the chart-room, turned on the light and made an entry in his scrap log: a large passenger steamer one point on my port bow, a mile and a half away, showing me her red light, has just been shut out from view by the fog. I submit that the man who is navigating a ship has other duties to perform under such circumstances. Your Lordships, I think, will receive some help in disposing of this criticism, when you read the log prepared by the officers of the *Empress* and when you note that although, according to their testimony, some hours before the accident they had encountered a fog twice on the way down the river, and although they had slowed their engines on both occasions, yet the log is absolutely silent on both these facts. Surely the criticism directed at the scrap log of the *Storstad* comes with poor taste from men who did not even enter in their own log the fact that they had encountered fog severe enough to cause them to slow down their ship.

Criticism is aimed at our engine room log. That testimony was given very frankly. We got a bell at three o'clock to slow; we answered it and we logged it. At 3.02 a bell was rung to stop; we answered it and we logged it. After the vessel had been stopped for some moments other bells were rung; they came in quicker succession and the engineer in charge, instead of leaving his throttle to walk to the desk, stood by and answered his signals. He considered it more important to execute his

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orders at once than to keep a record of what he got and delay the execution of the orders in order that he might make the record.

LORD MERSEY.—Was the chief engineer there at that time?

Mr. HAIGHT.—He was in his bed, my Lord, but as I saw him on the stand he might as well have stayed in his bed all the time.

LORD MERSEY.—Does that mean that you do not care about him, or what does it mean?

Mr. HAIGHT.—It was an inadvertent expression of my contempt for the man who went to the lifeboats instead of going below to be on the scene of action with his assistant engineer; perhaps I should not have allowed myself—

LORD MERSEY.—Do you mean that he came up on the deck instead of going to his engine room?

Mr. HAIGHT.—I do, my Lord. The engineer who was in charge of these engines stood before your Lordships a pitiable exhibition of absolute terror. Your Lordship may remember it; drops of cold perspiration formed on his forehead, ran down his face and dropped from his chin. He stood there for 15 minutes, the most pitiable exhibition of terror that I ever saw.

LORD MERSEY.—My eyesight is getting bad.

Mr. HAIGHT.—That man realized at the time that he had been through a tragedy and, surrounded by the dignity of the occasion, he was frightened. He could have told nothing, I submit, but the truth, and I think your Lordships will find that he did tell the truth. His story is perfectly frank: "I did not have time to record the bells after 3.02, but after I went off the watch, hours after the accident, after a thousand lives had been lost, I did what I could to record the bells." I know of no practice that is more exasperating to counsel than this attempt hours after an event to put down definite times as to when events happen, or what they are. I will defy any man to go into an engine room and in an emergency hear 30 or 40 orders given and then go back and write them down in sequence with the time that elapses. This man says, quite truthfully, I think: I do not know what bells came after 3.02, I got them, I answered them; I remember full speed astern; I do not know what it was; I put it down 3.05. That is the best I could do. The chief engineer some hours later undertakes also some salvage work on the log, and he puts in some more bells. But the court can find only one thing; two bells were logged; the others were not logged. That fact is admitted. There is no basis for the statement that the movement of the *Storstad* is a surprise to anybody. We never denied that the *Storstad* was moving. Captain Andersen drew diagrams showing the positions of both steamers when he first saw the *Empress* and the movement of both vessels as they came together, and he gave as his judgment, as well as he could form it, a movement of about a length and a half for the *Empress*, while his boat was going forward perhaps a third of a length. He gave them more speed than he gave himself, but he gave himself some headway, and nobody denies that we had headway. We never could have received or done the damage which we did if we had been dead in the water, because having sighted her on our port bow, she would, as my learned friend very accurately observed, have crossed our bow clear.

LORD MERSEY.—Did not some of your witnesses suggest that you had come to a dead stop?

Mr. HAIGHT.—I do not think that any of the witnesses said that our boat had no headway through the water.

LORD MERSEY.—Some of them certainly said that the ship had headway through the water, but my recollection is—although I may be wrong—that some of them also said that the ship had no headway at all.

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Mr. HAIGHT.—I think not, my Lord. I think Toftenes says that she had but little headway; everybody else says that she had some headway, including the captain, and manifestly she did have some headway.

Chief Justice McLEOD.—The order was given: slow ahead?

Mr. HAIGHT.—Precisely, she had lost steerage way; that is the point to which every witness testified.

LORD MERSEY.—But when was the order given: full speed ahead?

Mr. HAIGHT.—Never, my Lord, until the boats came in contact.

LORD MERSEY.—What order was given immediately before that?

Mr. HAIGHT.—Full speed astern, my Lord.

LORD MERSEY.—And immediately before that?

Mr. HAIGHT.—Slow ahead.

LORD MERSEY.—Is there any reason to suppose that the order of slow ahead had any effect upon the headway of the ship?

Mr. HAIGHT.—I suppose it had some effect. Probably the engines were running 20 or 30 seconds slow ahead, but it would have an almost inappreciable effect. I suppose that every revolution has some effect theoretically.

Now, all these criticisms which are aimed at our side of the case are absolutely unimportant—log entries, wheel, everything—if your Lordships find that at the time the *Empress* came out of the fog we were heading west by south. That was the course upon which we entered the fog; that was the course not only that we were entitled to take, but that we were required to keep, and we had a right to keep steerage way. It was not our duty to allow the vessel to run down so slow that she would become absolutely unmanageable and might sheer in the current.

Now, our story is checked and substantiated by a great many physical facts, which, I think, cannot be contradicted. First, as to the fact that one whistle was blown by the *Empress* as she came into the fog; we say she did blow one whistle; she says she did not. Now, what is the condition of the record? I will hand up subsequently or give to your Lordships now—it would take a little time—the references to our witnesses and to the evidence of passengers.

LORD MERSEY.—I think you had better give them to us.

Mr. HAIGHT.—From the *Storstad*, Toftenes says, pages 207 and 208, that the *Empress* blew the long fog signal; she was blowing fog signals; also at pages 234 and 235. Saxe says: the *Empress* blew a long single blast, the usual interval of fog whistles; pages 931, 932, 934 and 968. Fremmerlid, the *Storstad's* lookout, says that the *Empress* blew one blast; page 1007 and 1008. Belanger, the Captain of the *Eureka*, who, your Lordships will remember, was called as a witness before the Coroner, heard the whistles; his testimony is on pages 1314, 1325, 1326, 1362 and 1363. Powell, the assistant steward from the *Empress*, says that he heard the *Empress* blow a fog whistle once, page 1406. Radley, the boatswain's mate, says that the *Empress* blew one blast; pages 1414 and 1418. Miss Townshend, who was referred to by my learned friend yesterday as a young lady who evidently knew what she saw and what she heard, and who kept her head, testifies that she was awakened by the *Empress* blowing, and that after she had been awakened by the *Empress's* fog whistle, she heard two signals of three whistles. Everything that she heard before the first signal of three whistles must have been some different signal, and she could not have confused what she heard with a three whistle signal, because she heard that twice. This evidence is at pages 1661 and 1663. McOnie, the junior engineer, testified at pages 1667, 1668 and 1671, that he heard whistles and that he took them for fog whistles. Galway, the first witness to testify on this point, says that he heard a long blast from the *Empress*; page 618. When your Lordships

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come to read the evidence, you will find that a number of the witnesses whom I called were unwilling witnesses, and that their testimony was only obtained by reading to them statements which they had previously made to counsel for the Canadian Pacific and forcing them to say whether or not the statements as so made were true. I submit, therefore, that our story is proved; that the *Empress* did not put her engines full speed astern the minute that the fog began to make our lights look misty, but that she blew a running whistle as she entered the fog, as any reasonable ship would do. The whistle, I think the Court will find, was not only blown, but repeated, and the first signal of three whistles came several minutes after the fog had shut both vessels out from view.

CHIEF JUSTICE McLEOD.—You contend that it was right for her to blow a running whistle when she entered the fog?

Mr. HAIGHT.—Unquestionably, my Lord; she certainly entered that fog, according to Captain Kendall, at a speed of 16 or 17 knots. If he had immediately slowed her engines, as a prudent man would do, and signalled to indicate that he was moving through the water, the one whistle would be correct. I have no doubt that he blew it; his own men from his own ship heard it; we heard it and we twice answered it.

LORD MERSEY.—What is the interval supposed to have been between the one blast and the first three short blasts?

Mr. HAIGHT.—I think there is no exact testimony, my Lord, as to the interval.

LORD MERSEY.—I do not think you dealt with the suggestion of Captain Kendall that he blew his three short blasts because he was slowing down.

Mr. HAIGHT.—He says that he blew his three short blasts the minute he ordered his engines full speed astern.

LORD MERSEY.—And he was ordering his engines full speed astern because he wanted to slow down?

Mr. HAIGHT.—Apparently because he wanted to stop dead. For some reason he says not that he wanted to take the headway off his ship, but that he wanted to stop his ship—a thing which is certainly not usual. I submit that our story is substantiated that we heard one whistle and heard it twice, and I think also that our story as to the angle of contact is substantiated.

Chief Justice McLEOD.—You consider the angle of contact to be very material?

Mr. HAIGHT.—It is very material, it seems to me, whether it is 40 degrees or 7 points; it makes a difference of over three points in the extent to which one vessel or the other swung.

LORD MERSEY.—You mean by that four points or seven points?

Mr. HAIGHT.—Forty degrees would be about three and a half points. They say that the vessels came together at an angle of 7 points; I say that the angle was 40 degrees, which is three and a half points. The witnesses called by the *Storstad*, the master, the chief officer and the third officer, were all asked to draw diagrams. They then had no more idea than your Lordship had as to what conclusion Mr. Reid would eventually reach from his accurate observation with regard to the angle of contact. And yet, if you will take their exhibits you will find that there is an insignificant difference between the pictures as they drew them at the time and the conclusion which Mr. Reid subsequently reached as to what the angle of contact really was.

I think that our story is also absolutely substantiated on the point of the *Empress'* movement through the water.

LORD MERSEY.—Before you leave the question of the angle of contact will you tell us what the significance of the difference between the two stories is?

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MR. HAIGHT.—The significance, as I see it, is that if we, according to their story, strike them at an angle of seven points, it means that our course has been changed nearly seven points from our west by south. If they made the change which brought the vessels together at a seven point angle it means a sheer by the *Empress* about twice as great as the sheer which we say she took to bring herself across our bow at an angle of 40 degrees. If we are heading west by south and the angle of contact is 40 degrees, then the heading of the *Empress* is north——

LORD MERSEY.—Will you help us by taking the two little models and illustrating what you are saying.

MR. HAIGHT.—(Using models). That, my Lord, is supposed to be the *Storstad*.

LORD MERSEY.—Will you first of all show me the angle at which the *Storstad* struck the *Empress*, according to the *Empress*' case?

MR. HAIGHT.—Seven points, my Lord, (indicating by using models.)

LORD MERSEY.—Now, show me the angle according to your point of view.

MR. HAIGHT.—(Indicating.) This, my Lord.

LORD MERSEY.—Just tell me what is the significance of that difference.

MR. HAIGHT.—I take the *Storstad* theoretically heading west by south. If the *Storstad*, heading west by south, collides with the *Empress* at an angle of 40 degrees, that means that the heading of the *Empress* at the moment of contact is north 39 degrees east, and she lies to-day pointing north 45 degrees east.

LORD MERSEY.—That is the diver's evidence, is it?

MR. HAIGHT.—Yes, my Lord. Of course, nobody can pretend to be exact to a minute or a degree in fixing the angle of this contract, but if it is true that 40 degrees is the exact angle, the *Empress* should have headed north 39 east.

I submit to your Lordships that our testimony is absolutely substantiated, as I said, that the *Empress* had headway through the water. Captain Kendall insists that by accurate observation of the water he knows that he was still; that he had been dead in the water, absolutely inert, for five or six minutes. But what is the testimony from his own ship on that point? It will take a considerable length of time to give your Lordships the references, but——

LORD MERSEY.—I think you had better give them; never mind the time.

MR. HAIGHT.—The testimony of Toftenes, pages 215, 218, 219, 253. Captain Andersen, 287, 290, 291, 292. Saxe, third officer, pages 946, 970. Those witnesses all say that the *Empress* was moving and moving at a good speed.

LORD MERSEY.—What point do these extracts from the evidence bear upon?

MR. HAIGHT.—That the *Empress* had a definite and positive motion through the water at the time of contact, contrary to Captain Kendall's absolutely positive statement. Fremmerlid, the *Stordstad*'s lookout, the man who said that the *Empress* was moving 'nearer quick'; pages 1002 and 1008. Johannesen, the man at the wheel; page 1030. As to the testimony from the *Empress*' own witnesses, I would refer the court to Williams, the chief second-class steward, page 684, 686, 687. He says that he jumped up at the shock; he looked out through the port and he saw the *Storstad* sliding slowly past the port.

Chief Justice McLEOD.—Does he say that the *Empress* was moving?

MR. HAIGHT.—He does not, my Lord. My point is that when the vessels changed their positions relatively, one or the other or both must have moved.

LORD MERSEY.—There you have the court with you.

MR. HAIGHT.—Then, if, according to Captain Kendall's statement, he being dead in the water, we strike him at right angles, no power known to mechanics can swing our vessel parallel to his and our bow ten or eleven points around, and the boats could not

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separate by the *Empress* disappearing in the fog and leaving us astern. Then there is Ferguson, one of the Marconi men, whose evidence on the point may be found on page 692, 702 and 703.—He saw the lights of the *Storstad* passing astern.

LORD MERSEY.—Was that after the collision?

Mr. HAIGHT.—Yes, my Lord. You remember that the Marconi men said——

LORD MERSEY.—Oh, yes, I remember, but you say that was after the collision?

Mr. HAIGHT.—Yes, my Lord.

LORD MERSEY.—And he saw the *Storstad* passing away towards the stern of the *Empress*. I do not see at present how that is evidence that before the collision the *Empress* was moving ahead.

Mr. HAIGHT.—It seems to me to be definite evidence that after the collision the *Empress* was moving ahead.

LORD MERSEY.—Is it evidence that she was moving ahead, or is it evidence that the *Storstad* was moving towards *Empress's* stern?

Mr. HAIGHT.—If I am correct in my judgment as to the moving bodies, if we collide, as Kendall says, at an angle of seven points and he is dead in the water, there is no way in which the *Empress* can swing around and leave us astern; he would not leave us at all.

LORD MERSEY.—Is it clear that the *Empress* did swing round? The *Storstad*, according to Captain Kendall, backed out.

Mr. HAIGHT.—According to Captain Kendall, my Lord, the vessels did swing so that they came approximately parallel.

LORD MERSEY.—I am only asking you whether Ferguson's evidence necessarily means that the *Empress* was moving forward. Just read it again.

Mr. HAIGHT.—He says at page 702, question 2013:—

'Q. How much of a jar was there?—A. Practically nothing.

'Q. And when you got the starboard side, you then saw the *Storstad* going astern?—A. Yes, that is right.

Q. How far had she got on your starboard side abreast of your room or aft?—A. She must have been abreast, because I did not look close to the window. I saw her just as she came by the window.'

The collision had been some distance forward of the wireless room.

LORD MERSEY.—That is to say that after the collision the *Storstad* was making for the stern of the *Empress*?

Mr. HAIGHT.—He saw her passing his window.

LORD MERSEY.—I am at present at a loss to understand why that is evidence that the *Empress* was moving ahead.

Mr. HAIGHT.—Of course, if at the time of the collision the *Empress* did have headway, then the *Empress* would have continued on.

LORD MERSEY.—But if she had not headway and the *Storstad* was making for the stern of the *Empress* the same thing would have happened to Ferguson; he would have seen the *Storstad* moving past him.

Mr. HAIGHT.—But I submit my Lord—the assessors will know better than I——

LORD MERSEY.—I thought he said in terms: she was moving past us.

Mr. HAIGHT.—Past the window.

LORD MERSEY.—That seems to me to mean that it was the *Storstad* which was moving.

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Mr. HAIGHT.—(Reading):

‘She must have been abreast, because I did not look close to the window. I saw her just as she came by the window.’

Now, my view had been—your Lordship and the assessors will correct me if I am wrong—that a vessel colliding with the *Empress* at seven points could not possibly go sidewise or any other wise back towards the stern of the ship by her own engines, and that if everybody on the *Empress* after the collision sees either the *Empress* going ahead or the *Storstad* broadside going astern, or swinging round and going astern, you must find motion on one boat or the other, and the *Storstad* cannot go broadside down along the starboard side of the *Empress* to her stern—

LORD MERSEY.—She did go round her stern?

Mr. HAIGHT.—Captain Kendall so states.

LORD MERSEY.—There is no doubt about that, is there?

Mr. HAIGHT.—If I am right, there is, therefore, no doubt that the movement which caused that phenomenon was the movement of the *Empress*.

Chief Justice McLEOD.—Your contention is that the *Empress* moved and carried the stem of the *Storstad* ahead?

Mr. HAIGHT.—Yes.

LORD MERSEY.—Now, you were giving us the evidence from the *Empress*?

Mr. HAIGHT.—Bamford, another Marconi man, pages 705, 706, 707 and 708.

LORD MERSEY.—What is the effect of his evidence?

Mr. HAIGHT.—He says that he saw the *Storstad's* lights drifting aft; it is to the same effect as to the relative way in which the boats separated.

LORD MERSEY.—Your contention is that whenever they use the expression: ‘drifting aft’ or ‘passing aft,’ it really means that the *Empress* was moving forward?

Mr. HAIGHT.—Yes, my Lord. In view of the fact that the vessels came in contact at that angle and that they subsequently swung around, as Captain Kendall says, to this angle, (indicating) then separating with the headings almost parallel, it should be observed that these movements are, under the rules of physics, absolutely impossible on the theory that the *Empress* was dead in the water and that we were reversing our engines. Instead of swinging parallel with her and drifting astern, we would have backed straight out, as Kendall originally contended, and our bow would have gradually swung under the reversing engines to starboard.

LORD MERSEY.—Now, is there any other evidence?

Mr. HAIGHT.—Burns, the assistant storekeeper on the *Empress*; pages 1658, 1659 and 1660. He says that the *Storstad* moved round broadside with the *Empress*, that she swung towards the *Empress's* stern and the vessels became more or less parallel. Four-nier, one of the *Empress's* trimmers, says that he saw the lights of the *Storstad* drifting towards the *Empress's* stern; pages 1277 and 1278. I should also mention the evidence of Reinertz, the second officer of the *Storstad*, pages 1116, 1117, 1118 and 1134. He says that after the contact the lights of the *Empress* went over to his starboard bow. Aagen-sen, one of the sailors on the *Storstad*, says that he saw the lights of the *Empress* forward, and that they disappeared to starboard; pages 1143 and 1144. Jansen, also a sailor; pages 1144 and 1145. Reid, my naval architect, also says that from his observation of the wound he believes that the *Empress* was moving; pages 1762, 1776, 1804. The last witness is Larsen, also one of the *Storstad* men, page 1147. He says that he saw the *Empress* after the collision disappear to starboard. I submit, therefore, that the evidence given by our side that the *Empress* had headway is substantiated by these witnesses.

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I come now to what I believe to be the principal physical fact which proves our story to be true and disproves theirs completely. We say that we were heading west by south. We say that the angle of collision was approximately 40 degrees. As I have stated, if these two statements are correct, the *Empress* at collision was headed north 39 east. I may explain that west by south is, of course, the same as east by north.

LORD MERSEY.—Just tell me that again. You say that the *Storstad* was heading west by south?

Mr. HAIGHT.—West by south.

LORD MERSEY.—And you say that she struck you at an angle of 40 degrees?

Mr. HAIGHT.—Forty degrees.

LORD MERSEY.—And you say that if this be true, the *Empress* must have been heading north by 39 east?

Mr. HAIGHT.—North 39 east.

Chief Justice McLEOD.—That is on the basis that she struck you at an angle of 40 degrees?

Mr. HAIGHT.—Yes, my Lord. West by south is, as I have said, equivalent to east by north. That is, if our head is pointing west by south, our stern is pointing east by north; that is $11\frac{1}{2}$ degrees from due east towards the north, or one point. Add to your 11 degrees 40 more, and you have 51 degrees; 51 from 90 leaves 39.

Your questions have shown that your Lordships were impressed by the fearful rapidity with which this vessel sank. There was not a steward or a passenger, however fast he moved, or however little clothes he may have put on, who succeeded in getting to the deck until the list was so serious that the port boats were absolutely unmanageable. Some of the passengers who got up and started for the deck almost immediately had to crawl on hands and knees up the stairs and companion ways. Now, what does that prove? It proves what Captain Kendall admits to be the fact; that the vessel sank practically where we hit her. She moved off a few lengths in the fog, but she was careening to starboard immediately and she could have done very little but fill and sink. Now, when she disappeared Captain Anderson says she was heading off shore. He gave that testimony before anybody knew how the wreck lay; before there was a word of evidence as to what the divers would disclose. Captain Kendall had already said that the last of her heading when she went below the water was southeast, definitely and positively.

Chief Justice McLEOD.—Who said that?

Mr. HAIGHT.—Captain Kendall.

Chief Justice McLEOD.—That she was heading southeast?

Mr. HAIGHT.—He said that his vessel was swung by the blow until she was heading from north 73 east to southeast.

LORD MERSEY.—Will you refer to the page, please?

Mr. HAIGHT.—Captain Kendall, pages 85 and 87; Captain Andersen, page 299. Captain Andersen said that when she sank she was heading out from land, and if she was heading southeast, as Captain Kendall said, she would be heading almost directly for the land. Now, how are we going to explain, on Captain Kendall's story, the fact that the *Empress* is found by the divers lying on the bottom on her starboard side, and heading not on the course he says, but at right angles to it?

Chief Justice McLEOD.—Not on the course that Captain Kendall says?

Mr. HAIGHT.—Not on the course that he says of southeast, but on a right angle course of northeast, on a course which is within five or six degrees of the course upon which we say we struck him. The buoys placed on the *Empress* are northeast and southwest. Wotherspoon, when asked by my learned friend as to whether there were

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currents which might affect this vessel from the time she disappeared from the surface until she reached the bottom, said that there were currents; he had been there. His testimony is absolutely contrary to the chart, and, better still, is entirely contradicted by the testimony which we have received from the divers from the *Essex*. There are no whirlpool eddies at the place where this vessel sank. The tide runs fair, but it never runs at a speed which causes a diver any difficulty in going down. The testimony that came in this morning from the chief gunner of the *Essex* is that on June 19, his diving work was carried on between 11 a.m. and 4 p.m., a period of five hours. On the 19th, high water was 11.14 a.m. and low water 5.13 p.m. In other words, his divers were going up and down from the beginning to the end of the entire ebb movement, which, added to the natural current of the river, gives you absolutely the maximum current that you can get. But no diver experienced any difficulty, apparently, in doing that work. Wotherspoon admits that no attention was paid to the state of the tide; they went down when they wanted to go, and if there were whirlpool conditions which affected this great ship 540 feet long and of 18,000 tons displacement and whirled her round 8 points from the time she disappeared from the surface until she reached the bottom, nothing but the force of Niagara Falls would accomplish it.

LORD MERSEY.—That paper has not been in evidence, has it?

Mr. HAIGHT.—Mr. Newcombe has the original; I supposed that it was to be submitted.

LORD MERSEY.—It had better be put in and marked. (Paper from gunner of *Essex* re diving operations, filed and marked as Exhibit H-1).

Mr. HAIGHT.—I come now to Captain Kendall's story. If I am correct in stating that the physical facts substantiate my story, then it should also be true that the physical facts contradict his story. I submit that that is true. Our courses were taken accurately. Our distance off shore was approximated and when we left Metis Point abeam we knew that it was abeam; but we estimated that it was four miles. It is not surprising if that estimate was somewhat out; we could with perfect safety have gone within two miles or one mile; it made no difference. The courses given by Captain Kendall must be accurate. His distances must be correct; his times were noted with the utmost precision. He remembers it all; he never failed to look and he never forgot. I did not want to inflict an additional chart of my own upon the court, but I thought it would be helpful to have Captain Kendall's chart photographed so that it would show a larger scale, and have his diagram transposed.

Chief Justice McLEOD.—Is that what we have here?

Mr. HAIGHT.—That blue print is the diagram drawn by Captain Kendall, taken from Chart 'C,' showing the known course of the *Empress* and the supposed course of the *Storstad*. 'A' is the position of the collision; 'B' is the course of the *Storstad*. This line 'B' running down towards Father Point is the supposed course of the *Storstad* and the point 'B' is the position where the first whistle from the *Storstad* was heard. 'C' is the position where the second whistle was heard; 'D' is the position where the third whistle was heard, his testimony being that the whistles were two, four and six points on his starboard hand. 'E' is the course that the *Storstad* took after giving the third whistle, and 'E' is what he says is that the *Storstad* did under her port wheel. The distance run to the change of course from Father Point pilot station is four and a half miles, and he says he ran that distance in 15 minutes.

LORD MERSEY.—What is the four and a half miles?

Mr. HAIGHT.—The distance from the point at the pilot station up to the place where he changed his course to north 73 east.

LORD MERSEY.—Where we see the 22 marked?

Mr. HAIGHT.—Yes, my Lord. According to Kendall's testimony, when he changed that course he had Cock Point abeam, and he draws his diagram putting Cock Point

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light abeam exactly where he says he changed his course. Now, at the change of course, on his own course as plotted by himself on the chart, Cock Point is distant four miles; but Kendall himself testifies that he really cleared Cock Point by only two and a half or three miles. Your Lordships will remember his definite statement that some men clear Cock Point one mile, some two; he, because of his greater caution, gave it two and a half or three miles clearance. But his diagram shows four.

Chief Justice McLEOD.—It is drawn to a scale, is it?

Mr. HAIGHT.—Yes, my Lord, this is a photograph from his chart. According to Captain Kendall's story the heading of the *Storstad* when we make this violent change from 'D' to 'A' is nor'-nor'-west one-half west, making a change from our original course of six and a half points, and it is said, even by learned counsel on the other side, that we accomplished that change of heading and ran that distance in one minute. It is a mile.

Chief Justice McLEOD.—That is, a mile from where the helm was ported?

M. HAIGHT.—From 'D', where Kendall says we ported, to 'A', where he says the wreck by a mile and a quarter. The letter 'G' indicates the location of the wreck the wreck by a mile and a quarter. The letter "G" indicates the location of the wreck as absolutely fixed by Gagnon, the man who made the observations and located the buoys for the Government. Now, that does not fit in very well with the known facts. References to the collision as to times are worse. He says definitely and positively, page 1650, that he left Father Point at 1.20.

Chief Justice McLEOD.—That is, Captain Kendall?

Mr. HAIGHT.—Yes.

Chief Justice McLEOD.—That was when he was called the second time, was it not?

Mr. HAIGHT.—Yes, my Lord. He says he left Father Point at 1.20; the collision was 1.55. He knows the moment of the collision, because two moments before, for some reason unexplained, he was particularly anxious to find out what the time was, and he went into the chart room for no other purpose than to look at the clock. So that figure is precise; that testimony is on page 1651. From 1.20 to 1.55 means a total time elapsed of 35 minutes. He occupied 15 minutes in running on the first course; page 1648. He occupied 12 minutes actually running on the second course; page 1647. That leaves of our 35 minutes only 8 to be accounted for. During those eight minutes he tells us what he did. He blew three whistle signals twice and he blew a two-whistle signal twice; in the eight minutes: three, three, two, two. He was seven minutes dead in the water, page 152. At page 148 he says that he was from five to seven minutes dead in the water. If we take his seven minute statement, on which he first put a good deal of emphasis, it means that he blew three, three, two, two, in 60 seconds. If he was dead in the water five minutes, which is his lowest estimate, he blew those four signals in three minutes. Now, after 27 minutes, when he blew his first signal of three whistles, the *Storstad* was two miles away, according to Captain Kendall. She was three to four miles away, according to Jones, and according to my learned friend Mr. Aspinall in his argument yesterday, she was two and a half to three miles away. I will compromise with my learned friend at three miles. Assuming that to be the case, the *Empress* reverses three miles away from us and she stops dead in two lengths. We are, therefore, forced to travel of the three miles in order to get into contact, that entire distance, less only two lengths, which is 1080 feet. In other words, according to Captain Kendall's diagram and his story as told specifically and with precision, he during the eight minutes travelled 1080 feet, and we travelled three miles less 1080 feet, which gives us a rate per hour of twenty-eight and three-quarter miles. We certainly would have had some bow wave if we had been doing that.

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Captain Kendall's story also, as I read it, lacks substantiation in its vital points as to the lights. To use once more my learned friend's phraseology, it is most important to Captain Kendall's case that he should have seen our green light; until he could see our green light he was showing his green to our red and he was bound by the rules to keep out of our way. Now, what does he say about seeing the green light? He goes to the upper bridge and he says that he took from his standard compass a special bearing and that he then saw the green light. Jones, the officer on the bridge, could not see the green light, although he was using his binoculars, and he so testifies. Murphy, the stand-by man, could not see the green light. He was not steering; he was standing by. His opportunities for observation and his duty to observe were both present, but he could not see a green light. Carroll, the lookout on the crow's nest, could not see a green light. My friend suggests as to Carroll, that the duty of a lookout on the *Empress* is to look at a light when it can first be seen and never look at it again; it would not be natural for him to look after he had once reported. Well, it appears to me most extraordinary that with only one ship in view, Captain Kendall is the only man who can be found on the ship who ever saw our green light. Captain Kendall admittedly was in the starboard hand position when he started from Father Point. If we are heading west by south, which is approximately parallel with the shore and he is coming out from Father Point on an angle, we must be on his starboard bow. According to his story, he deliberately changed from north 47 east to north 73 east, and having originally been in a position which put us four points on his starboard bow, while we are still on his starboard bow he deliberately changes to a course that brings us within one point. It is indeed important to his case that he should prove that when he made that change he had crossed our course and could see our green light, and for that proposition you have his word, unsubstantiated; questioned by the fact that Jones used his binoculars and could not see it; contradicted by our evidence that we saw his red light. But, says Captain Kendall, when I changed my course to starboard, I had got a view of your green light; there was nothing wrong about my changing from a position of absolute safety, four points, to one of one, because I had crossed your course; we were green to green. You were two miles away and one point on my starboard bow and the clearance would have been half a mile. Jones, as I have said, puts it at four miles away and three points, which would give a clearance of two and a third miles. And yet, on that story the engines of the *Empress* are put full speed astern as soon as haze begins to dim the lights of the *Storstad*.

Captain Kendall's story also, it appears to me, has in it extravagances in other details which go a long way towards discrediting him. He talks about a sheet of fire shooting out when the vessels came together; he talks about a terrible impact, while it has been stated by another witness that there was no jar at all. He says that he, lying dead in the water and heading north 73 east, had changed to southeast, practically six points, when we hit him amidships; whereas Mr. Hillhouse says that hitting him amidships we could not have changed his heading at all. He says that when the *Storstad* hit the *Empress* she rebounded like a rubber ball thrown against a wall. Mr. Hillhouse admits that the forward movement of the *Storstad* would have been absolutely taken up by the crushing of her parts, and that when she penetrated the maximum she would have been inert. Captain Kendall, worst of all, says that when we backed away we backed out straight from him a mile and left his passengers to drown. The truth is that from the time the boats separated, we were constantly blowing our whistle to find where he had gone to in the fog, and during the feverish efforts that were being made on the bridge to do something, nobody ever thought of pulling the whistle cord, that we might get close by and render assistance. It was the cries of drowning people that aided us in groping our way to the sinking vessel. Captain Kendall told us about leaving his bridge to throw the gripes off his boats. I do not doubt that he left the bridge, but your Lordships cannot have overlooked the fact that on cross-examination the officer

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who did put out the starboard boats says that he himself and his men released all those gripes. I do not know what Kendall did when he left the bridge, but the testimony is uncontradicted that not a gripe was touched until the officer and the men who actually lowered the starboard boats got to them and started their work. One of the most extravagant claims he makes is that we swung seven points, as shown by his diagram; that we had travelled a mile to do it, and that this porting of the wheel was done after our vessel had been slowed for two minutes and stopped for four or five. To have travelled a mile in a minute we would have to be a 60-knot boat, not 27; our change of course is in proportion.

My friend argued yesterday that Captain Kendall must be believed because he had recently faced death, had lost his ship and had been connected with a disaster which meant the loss of over a thousand lives. Now, must he be believed for those reasons?

Is it not more likely that because he lost his ship and because he has lost a thousand lives he would not dare face the world with a frank admission that he had been at fault. It would indeed take heroic courage for any man to stand up and say before the world: 'within four miles from land, with the vessels both known, their positions known and their courses only eight minutes before I so manœuvred my boat that she came across the bows of the other vessel when that vessel had not changed her course.' Is it not likely my Lords, that the fearful experience through which Captain Kendall went has left its mark and that his testimony bears that mark inevitably? I submit, my Lords, that the heading of the wreck of the *Empress* was the heading of the *Empress* at the time of collision, and that because of that heading the *Empress* alone was to blame.

LORD MERSEY.—Now, Mr. Haight I want to perfectly understand, your case involves the necessary conclusion that Kendall and his witnesses have deliberately placed a story before us which they must know is false. That is the effect of your argument.

Mr. HAIGHT.—My argument is that one side or the other has done that very thing and I submit that it is the *Empress*.

LORD MERSEY.—Now, Mr. Aspinall would you rather address us before the adjournment or after. I mean to say we are not going to sit here if you are going to be an hour to finish?

Mr. ASPINALL.—I shall certainly be half an hour at least.

LORD MERSEY.—Very well, I think I had better have you after the adjournment.

The court resumed at 2.35 p.m.

Mr. ASPINALL'S SPEECH IN REPLY.

Mr. ASPINALL, K.C.—My Lords, while I am not in accord with many things that Mr. Haight has said, yet I am entirely at one with the opening observations which fell from him. May I remind your Lordship what he told you? He said this was a case in which according to his view, and I agree, one or other of these ships is to blame. It is not a case of both to blame, and the view that he has presented to your Lordship is in accordance with the view that I have been seeking to present to your Lordship, that being red to red and green to green unless one altered course these ships would have safely passed one another, either starboard to starboard or port to port. And he also proceeds to say that he has no complaint against the *Empress* unless he (Mr. Haight) can establish that the *Empress* changed her course. Now that is the fight between us.

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LORD MERSEY.—Forgive me for interrupting. Does it follow that it is not probable that each ship may have been partly to blame for what happened? You say it follows logically that only one ship can be blamed.

MR. ASPINALL.—If I might be allowed to correct your Lordship. What so far I have said is that is the way in which Mr. Haight has presented his case. He is an advocate of experience and I have no doubt he is not ready to give away anything and that is the position he takes. And that equally I may now answer your Lordship that is the position I take up, that if this evidence be anything like right on either side that these two ships were passing one another at a safe distance be it red to red or be it green to green, and that the error or blunder which brought about this trouble was the change of course on the part of one, I am prepared to admit this or possibly on the part of either, because I feel—

LORD MERSEY.—When you say possibly on the part of either don't you mean possibly on the part of both?

MR. ASPINALL.—I did, my Lord, I used the wrong word. It is possible of course in this class of case, but in view of the contentions that have been put forward on either side, if either contention is right with regard to what happened to the helm, with regard to what happened to the speed it followed if either I establish my case with regard to that matter or Mr. Haight establishes his case with regard to that matter, that my ship could not have altered course or his ship could not have altered course it all comes back to that—

LORD MERSEY.—That I quite understand before asking this question—because the view may be taken by some members of the court—if your story is right it follows logically that the witnesses for the *Storstad* are either telling deliberate lies—and I don't think you can escape from saying it—if on the other hand Mr. Haight's story is right it follows as he says that the witnesses from the *Empress* must be deliberately putting forward a story which they know is untrue. That seems to me to be the position involved by the pretensions of the two sides. What I am asking is this, is it according to your view possible that there may be a middle course involving both sides in blame?

MR. ASPINALL.—As your Lordship says of course it is possible, but what I submit is the manner in which your Lordships will approach the consideration of this case will be your Lordships will consider the evidence, and I submit that in a court of law that the court is slow, and properly slow to arrive at a conclusion which neither party to the dispute invites the court to come to, and to which conclusion neither party has addressed its evidence.

LORD MERSEY.—Of course you must remember that this is not a suit.

MR. ASPINALL.—I admit that.

LORD MERSEY.—This is an inquiry.

MR. ASPINALL.—That is clear, but nevertheless I submit I am entitled to put forward this contention, that where you find two ship-owners represented, if I may say so, by counsel who know their business, if in accord with this view that it is one to blame, and not both, and when it is remembered that the evidence on both sides has been massed so to speak to arrive at that conclusion, that whether it be a tribunal which is inquiring, or whether it is a tribunal which is determining liability, that that tribunal would be slow to say that they propose under these circumstances to arrive at a middle course.

Judge McLEOD.—What this commission wishes to do is not to try the case between the *Empress* and the *Storstad* but to satisfy ourselves and, if we can, satisfy the public, just how this accident happened, and if coming to that conclusion we have to find that both are to blame we are entitled to do it.

Mr. ASPINALL.—Undoubtedly.

Judge McLEOD.—Regardless of what counsel say on either side.

Mr. ASPINALL.—I say it is possible, and of course your Lordships are entitled to do it, but what I am submitting to you with some confidence is that any tribunal, if it be a tribunal inquiring as to the causes of the collision, or if it be a tribunal determining whether there is liability would be slow, where the case has been conducted in the way the case has, to arrive at a middle course. My lords, I have always understood that a tribunal is much guided by the conduct of the case. The tribunal is necessarily much guided and influenced by the points to which the evidence is directed, and here Mr. Haight and I are in agreement that on this part of the case we have each of us directed our evidence, massed it on this one point. Did the *Empress* alter course, or did the other vessel alter course, and after the evidence of it the two speeches have been addressed to your Lordships in support of that view, and that view only. And I submit that under those circumstances as I said before, the Court would be slow, and if I may say so respectfully, properly slow to arrive at any other conclusion.

LORD MERSEY.—I put it to you again. Your case is that the course of the *Storstad* was changed?

Mr. ASPINALL.—Yes.

LORD MERSEY.—In such a way as to bring about the collision?

Mr. ASPINALL.—Yes.

LORD MERSEY.—His case is that the course of the *Empress* was changed in such a way as to bring about this collision.

Mr. ASPINALL.—Yes.

LORD MERSEY.—And you say that inasmuch as the happening of the collision undoubtedly depends upon some change of course it is extremely improbable that both changed their course and brought about the collision?

Mr. ASPINALL.—Yes, that is my point. I don't for one moment suggest that your Lordships could not take that course, but with submission I submit it would be a strange course, and an unusual course for the Court to pursue in view of the way this case has been conducted, and in view of the way in which the evidence has been directed.

LORD MERSEY.—Those are the issues between the parties. I say no more, only in order that I may see on what lines you are running your case. I have asked pretty much the same questions of Mr. Haight, and I understand exactly the position that he takes.

Mr. ASPINALL.—Mr. Haight, without any inquiry from your Lordship in the very opening sentences of his address made that extremely clear, that that is his position, and that is my position. Having said that Mr. Haight then says this, that he pins his case in support of his charge that the *Empress* altered her course upon the defect either in the gear which operates the rudder, or a defect in the rudder. One wants to get down in this case, if one can, to what is the broad issue between the parties. Now we have got it in view of what Mr. Haight says.

LORD MERSEY.—I think you left out the third, that for some reason or another Captain Kindall entirely lost his head.

Mr. ASPINALL.—Yes, I shall be able to deal with that. I confess that in view of what Mr. Haight had said in the early part of his case that his attack was upon the steering qualities of this vessel, I fail to appreciate the importance of that latter observation. I fail to appreciate it, and with all respect to Mr. Haight I still do. But it is a point that if need be I will deal with. As I understand the point of his attack, and that is the big issue between us, was did the *Empress* alter course because the steam

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steering gear failed or the rudder, on account of its area. It was to that I proposed to address my remarks in reply to your Lordship. Now Mr. Haight, having committed himself to that gave reasons, various reasons why he claims that he establishes that charge. I shall deal with them very shortly because I really have practically dealt with them yesterday. I want to make this observation, that he says, and says no doubt with some force that if Captain Kendall has failed there is every reason why he should lie. He is using strong language, and perhaps it is better one should do so, it makes for brevity, that Captain Kendall is wrong and that in view of the fact that he has lost his ship, and that so many human lives have been lost, that unless Captain Kendall can exculpate himself he can never hold up his head again among his fellow men. But consider what is Mr. Haight's attack, not that the man has failed, but that the ship has failed, and if he established his proposition that the ship had failed why should Captain Kendall come here and seek to sacrifice himself in order to save the pocket of the Canadian Pacific Railway Company? The very manner in which Mr. Haight has put forward his case with regard to this entitles me to reply to him, and to reply to him with force that if you Mr. Haight establish that the ship failed, why does not Captain Kendall at once say I did not fail, it was the instrument that the Canadian Pacific Railway Company entrusted to my charge that failed. I submit that is a good reason for rejecting this, because this trouble was a defect in the steering, a defect in this ship. That is the issue between us, did the ship fail. But it is to be remembered in that connection, that this vessel since her rudder was altered in 1908 has sailed the seas many thousands and thousands of miles. Mr. Haight, to use his own expression, says there was a radical defect in the steering qualities of this vessel. Is it conceivable that if there was a radical defect in the steering qualities of the *Empress* in view of the many voyages she has made that defect was never brought to the notice of the Canadian Pacific Railway Company and remedied. One must look at this from a business point of view, and it is obvious that if there was this radical defect in the steering quality of the *Empress* that she would have failed time out of mind, and that Captain Kendall for the safety of his own life, would at once have communicated to the Canadian Pacific Railway Company that this ship is unsatisfactory. He has got to take her up narrow waters. I don't know the navigation of the River St. Lawrence, but I am told and from what one hears in the evidence, that there are very many narrow parts, and it is essential to the safety of the men in that ship that she should be a good steering vessel. I submit this broad point for consideration, which is of enormous value when one comes to consider, as Mr. Haight establishes, the point which he says is essential to his success, namely, not that the man failed, but that the ship failed. Now what is the evidence which he relies upon in support of this suggestion that the ship failed? It comes back to Galway, because that is what it comes back to, to Galway and to the *Alden* incident. I dealt with it yesterday, and pointed out to your Lordships that according to Galway what happened on that occasion was that the wheel jammed, whereas, what the people from the *Alden* say, referring to the *Empress*, was that she was performing these serpentine evolutions upon the port bow. I suggested that the two things were quite inconsistent. Mr. Haight relied, as he was entitled to do, on the testimony of his pilot: I am entitled to remind your Lordships that according to the evidence of my pilot, that this incident did not happen. I am also entitled to rely on the fact that our pilot swears, and it is a thing he cannot be mistaken about, that it was never suggested to him by Galway, as Galway says it was. The next point that Mr. Haight makes is: look at the evidence of Murphy. Now what does Mr. Murphy say about about it, on the third day, page 662? Murphy was a gentleman who was asked—he had been at the wheel—how her helm was working. He was asked whether this witness (Galway had told him something to this effect: to be care-

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ful of the ship, that she was not steering properly, and he was asked: is that true, and his answer was: never, sir. Mr. Haight finds this, and upon this he seeks to build up his theory that the ship had bad steering qualities.

"By Mr. Haight.—Q. I understand, Murphy, you have never had any trouble with the steering gear?—A. Never since I have been on the ship."

"Q. You found that it worked with absolute promptness whenever you put the wheel one way or the other?—A. No, sir. It might be that it does not catch, and what you have to do is to put your wheel back amidships and give it the helm, and it will catch on right away."

Mr. Haight says that the witness said that sometimes happened, but Mr. Haight had not the book. The word 'sometimes' occurs in the question put by Mr. Haight, for the next question is:

"Sometimes, when you first put the wheel over, she does not catch on, and then you have to bring her back amidships?"

and the answer, "That might occur every two years."

Q. It has occurred?—A. Only once since I have been on the ship."

And then on page 420—I missed that and my friend, Mr. Holden, pointed it out to me—

LORD MERSEY.—Where is the page you have just been reading from?

Mr. ASPINALL.—Page 662. He is asked later on in the same page, "Has she ever jammed with you?" and the answer is: "No, sir, never."

Now the evidence of Galway was that she jammed.

LORD MERSEY.—That she jammed on one occasion and that she sheered on two other occasions, once when she was coming up the St. Lawrence river, and once when she was in the Mersey river.

Mr. ASPINALL.—Then on page 420, which I had overlooked, this witness, who had been examined earlier in the proceedings, was asked:

"Q. How long have you been quarter-master on the *Empress of Ireland*?

A. Four years and five months."

So that in the course of that gentleman's experience it had never jammed. And he speaks to this incident of not catching, and that is the sort of evidence upon which your Lordships are asked to come to the conclusion that this ship was sailing the seas with a rudder which really made her an animal *feri naturæ*—a more dangerous beast I can hardly imagine. This great vessel, travelling the seas, carrying thousands of lives, was allowed to go on all these years in this condition. It is incredible, it is asking your Lordships to accept too much. It is always to be remembered that we have that strong body of affirmative evidence from other people, that the rudder was in good order and condition. Your Lordship asked in this connection what was the evidence with regard to the tank. Mr. Haight made a point with regard to the tank. Mr. Hillhouse, on the eighth day, told us this with regard to the tank, page 1593-99: He was being examined by me with regard to this suggested leakage, assuming there is any leakage.

"Q. Assuming that there is any leakage, is it taken up from the tank which supplies the material?"

Mr. Hillhouse's answer is:

"Yes, that is the object of the tank.

'Q. You have the tank in the wheelhouse, have you?—A. Yes.

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‘Q. And that automatically feeds the machine?—A. Yes.

‘Q. So that in the event of there being any leakage, if the tank does its work properly the leakage is at once taken up and gone?—A. Yes.

‘Q. Is that simply a mechanism?—A. Yes.

‘Q. In your experience, is it effective?—A. Yes.’

That is strong evidence, and it is the evidence of a man who knows what he is talking about. Well now, that in effect sums up, apart from the view of Mr. Reid, which it was to be noticed was singularly in conflict with the views of Dr. Elgar and Mr. Hillhouse, sums up this attack on the steering qualities of the *Empress*.

Passing away from that point, Mr. Haight then commented upon the manœuvre of Captain Kendall in stopping and reversing his engines. As I said yesterday, in view of the fact that they admit that they twice heard our three short blasts, it seems almost to follow that unless Captain Kendall was wishful to give them false information, he must have been doing what he was saying by his whistle he was doing. As I said, if they had come here and said you did no such thing, and we heard no three blasts, and we say that is a manœuvre which a seaman is not likely to make, there would have been some strength in the observation. But they say: yes, we heard you give three short blasts, and we heard you give them twice. As I pointed out yesterday that was the case we pinned ourselves to from the first, and it is corroborated by the evidence given on the other side.

LORD MERSEY.—Would you let us know what in your view, the view that you desire to submit to the court, was the cause of the movement that those three short blasts referred to? What was Captain Kendall doing?

MR. ASPINALL.—My suggestion to your Lordship in connection with that is this: As your Lordship said yesterday to me, I won't say in criticism, I like observations from the bench, because it enables me to see what is in their minds, it gives me the opportunity of dealing with it, but your Lordship pointed out that in view of the fact that the *Empress* had met two fogs, she might reasonably meet a third fog, and of course she might very reasonably meet a very bad fog. And one is entitled, in a large passenger ship, such as this, to expect a high standard of care from the officers in charge of the *Empress*. What is his duty? You are told by the rule, in terms, to travel at a moderate speed, but it had been laid down by the tribunals in England that it is your duty, if you see fog ahead of you, to take your way off before you run into the fog. It is common sense, it is good and safe navigation. You are not to run into a fog and then begin to reduce your speed. If you have got great way upon you, reduce your speed before you go on. My Lord, that is to be found on page 373 of the sixth edition of Marsden's Collisions at Sea.

LORD MERSEY.—Sixth edition—is that the last edition?

MR. ASPINALL.—I think so. I am told it is. Well, that is the obligation imposed upon a ship, and when it is remembered that these two ships were approaching one another very nearly at thirty miles an hour, certainly thirty land miles, it would be 27 or 28 nautical miles, and here is the fog sweeping out from the land, is it such a surprising manœuvre for a ship-master to take? It may be that he is acting up to the high standard of care one is entitled to expect, a high standard of care when you are dealing with a large vessel, which is travelling at 17 or 18 knots an hour, and I submit, under these circumstances, when one remembers the other side said they heard us blow three short blasts, not only once but twice, there is no reason, no good reason, for saying that that testimony is to be rejected.

LORD MERSEY.—You will not forget what Mr. Haight said, that the lights were still showing on the *Storstad* and when the ships were three miles away from each other, and the *Storstad* was three points on his starboard bow, that is to say, as Mr.

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Haight suggests, when he was in a position of absolute safety, he, nevertheless, puts his engines full speed astern.

Mr. ASPINALL.—With regard to the bearing I think Mr. Haight is exaggerating. I don't mean wittingly, but unconsciously. I don't think at that time the bearing was three points, but what I do wish to suggest to your Lordship is this, it is merely my suggestion, you will be guided by the view of your Assessors, that probably distance and bearing were exaggerated. It is a common failing with sailors, particularly when they get into courts of admiralty—probably the distance and the bearings have been exaggerated by the seamen. It is to be remembered that the time when the engines were ordered to be put astern, the fog was then obscuring the lights of the *Storstad*. That was the condition of affairs. It is true that he had seen the lights, and had got them in a safe position, but still the fog is now coming on, and the density of the fog cannot be predetermined. It may be an extremely thick fog, as in actual fact it is, because the powerful lights of these two ships were only seen at very very close quarters, and under these circumstances, I submit that manoeuvre was taken. I have much stronger evidence in regard to this matter and these things. I have the evidence of the engineer who was in charge of the port engine and of the engineer who was in charge of the starboard engine, and this has to be remembered that in this case the bridge has its control over the engine room department, and the officers in the engine room are merely, so to speak, the machine to carry out the orders that come from the bridge. Now what do these gentlemen say? On the third day, at page 455, we find the evidence of these two gentlemen. The first is Brennan. He was in charge of the port engine, and at the top of the page he tells us this:

“Q. When you got full speed ahead, after leaving Father Point, was that carried out on the engines?—A. Yes, sir.

Q. Now will you tell us the next indication of speed that you got in the engine room? After that one?—A. About 26 minutes past two on our clock.

Q. You don't know as to whether your clock agreed with the bridge clock.—A. No, sir.

Q. I am asking you what were the next signals that you got from the bridge as to speed on the telegraph?—A. Stop, full speed astern.

Q. Were they given one after the other or were they given simultaneously?—A. Practically right around.

Q. Was that carried out?—A. Yes, sir.

Q. Will you please tell us, to the best of your knowledge, for how long the engines were kept full speed astern?—A. I should say about three minutes, sir.

Q. What was the next signal you got by the telegraph from the bridge?—A. Stop, sir.

Q. Was that following the three minutes?—A. Yes, sir.

Q. How long after that stop order was it before the impact took place, how long from the stop was it you felt any impact caused by the collision?—A. I should say approximately four or five minutes.”

It is essential for Mr. Haight's case to say that that is a lie. Here is a man in charge of the engines, not on his trial, down below, only carrying out the orders that are given from the bridge. That is the evidence of Mr. Brennan, and Mr. Liddell is a gentleman who was in charge of the engines on the starboard side. Mr. Liddell, page 493, in his evidence, says this: He is asked to give the orders he got, and he says:

‘The telegraph stood full speed ahead, and it was turned around to stop and full speed astern.

Q. Was that order carried out?—A. Yes.

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Q. After that, how long, to the best of your knowledge, were the engines kept reversing?—A. Bear in mind that any time I shall give shall be approximate.

Q. I understand.—A. About three minutes.

Q. Then you got the order to stop?—A. Yes.

Q. Was the order to stop carried out?—A. Yes."

If that evidence is anything like right, it must be that the way was taken off the *Empress*. There is a criticism that it is false testimony, but there it is, strong, affirmative evidence, which was in no way broken down by cross-examination. I am not reflecting on the powers of Mr. Haight, who is a most effective and powerful cross-examiner. We have heard him. But I submit he in no way broke down the evidence which was given by these two gentlemen. That, I submit, carries an immense way in this case. First of all, it results in this: that the *Empress* had been brought to a standstill, and, secondly, it results in this: that if the *Empress* was brought to a standstill, any helm-action that they had been wishful to give to the ship is necessarily ineffective. She is lying like a log, so to speak, out upon the water. No steerage way. I submit that was very strong evidence for my friend Mr. Haight, to seek to get over in the way in which he seeks to get over it by his suggestion that there was some defect in the steam steering gear. If we had been brought to a standstill, the defect becomes immaterial, even assuming that he establishes to the satisfaction of the Court, that this radical defect, as he calls it, existed. Now he has, in connection with the speed, called your Lordships' attention to a good deal of evidence from the *Storstad*, and to a certain amount of evidence from passengers and stewards—whose opportunities for observation, certainly for accurate observation, would be extremely small—but he is relying on that class of testimony to show that the *Empress* was travelling ahead. What they say, namely, that the *Storstad* is passing astern, would be equally consistent with the *Empress* going ahead or the *Storstad* going astern.

LORD MERSEY.—Well, Mr. Haight says not because of the angle at which the two ships came into collision.

MR. ASPINALL.—My Lord, may I just read the evidence I rely upon.

LORD MERSEY.—Certainly, by all means. When you make an observation of that kind, my mind goes at once to what was said on the other side.

MR. ASPINALL.—As I said, I welcome interruptions because it enables me to deal with any difficulties that your Lordships will have in your minds. My Lord, I wanted just to remind your Lordship of what, according to the engine-room log of the *Storstad*, was being done with their engines.

'3.05, full speed astern; 3.10, stop; 3.20, slow speed ahead.'

So that there is five minutes full speed astern, and ten minutes stop. My submission is, that that would follow from what these people thought they saw, if they saw it happen at all. Five minutes full speed astern. This ship has been brought up by reason of her having driven herself into the side of the *Empress*, her engines are put full speed astern, she is a stationary vessel, and her engines, I submit, would pretty rapidly give her sternway, and then, as she comes out, the tendency is to cant her head to starboard, and as she goes the swing on her, every moment, becomes more effective. Now it is put against me that the stern of the *Storstad* was tending to come in a line parallel with the *Empress*, that is what would happen. To what extent it became approximately parallel with the fore and aft line of the *Empress* no one is, of course, in a position to tell. No one on board either ship then was thinking to what extent the *Storstad* had inclined around after she had emerged from the wound. They

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were then all thinking of saving their lives, and the opportunity for observation at night and in a fog, when the minds of these people were directed to saving their lives, is practically nil, certainly of no value. In a general way, that would be what they would be seeing, her tending to become parallel, in view of the fact that she has been reversing her engines for five minutes drifting astern of the stationary *Empress*. My Lord, I submit that that is quite an adequate and intelligible explanation of what some of the witnesses, upon whom Mr. Haight relies, said they saw.

As I reminded your Lordships yesterday, this has always to be remembered, that whilst one feels a difficulty in thinking that passengers or stewards, for the matter of that, under these circumstances can give us correct evidence, with regard to the movement of the ships, it is to be remembered that a large number of these witnesses, stewards and passengers and others, say that they heard us blow two long blasts, and of course if that be right, then unless Captain Kendall was again guilty of this remarkable stupidity, that he is on three different occasions and more saying on his whistle that he is doing something or rather representing to the world that his ship is doing something which, in fact, it was not doing, is incredible. That three short and two long blasts were given, many other witnesses have told us. My Lord, Mr. Haight has made a spirited attack upon the chart that Captain Kendall marked. I ventured yesterday when I was dealing with charts, to suggest that in view of the facts that the distances run are estimates, that the positions are estimates, certainly the distances of the *Storstad* approaching in the fog are pure guesses, that very little reliable information could be gathered from the markings upon charts, and if my memory serves me right, while I was dealing with the matter, your Lordship said that was your opinion. It was somewhere said, would that my enemy had written a book. Mr. Toftenes, who possesses a fine literary style when he comes to write up his log, felt himself quite unequal to this task of doing that which Captain Kendal has attempted to do. And perhaps he was wise, because I think it is highly probable that if Mr. Toftenes had found himself capable of doing that which Captain Kendall had done, that probably I should have been able to get a spirited attack upon it.

LORD MERSEY.—Mr. Toftenes at once declared that he was not competent to do it.

Mr. ASPINAALL.—He wasn't, but if he had done it, as I say, it is highly probable that the same class of observations would have been made by me. Perhaps I should have been wasting time also in making them. But that is the outcome of that. I submit it is not of the slightest value. The only value that it occurred to me the court might derive from it, and it is very small, is that it appears to me that the course we claim we took and think we took takes us nearer to the wreck than the course Mr. Haight's vessel claims to have taken. But I don't think the slightest value is to be attached to it at all, because these are all guesses, estimates of distances, guesses of places, uncertainty as to speed, and matter of that sort. One criticism of that chart, prepared by Captain Kendall, is that at the place where he purports to have altered course, the buoy at Cock Point is not abeam to begin with. I think I could have helped Mr. Haight if he had come to my room last night with a few more criticisms of this kind.

LORD MERSEY.—The B is what?

Mr. ASPINAALL.—The buoy which is supposed to have been abeam at the time he altered his course is at right angles, it does not seem to be abeam.

LORD MERSEY.—What is B? B here is the position when the first whistle was heard. It was supposed to be two points and then it becomes four and then six.

LORD MERSEY.—What are you saying about B?

Mr. ASPINALL.—I was not saying anything about B. What I was referring to was the buoy at Cock Point.

LORD MERSEY.—I thought you were referring to a buoy at B.

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MR. ASPINALL.—No. What I was saying was that it seems to me I don't know whether Cock Point buoy is really abeam to the course, but I really don't wish to worry your Lordship about criticisms or comments on this chart. If your Lordship looks at B, C, D, E, they are the purest guesses. First of all, there is a curtain of fog—

LORD MERSEY.—But they are on the course laid down by Captain Kendall as the speculative course so far as he is concerned of the *Storstad*. That is what, he says, I imagine we must have done.

MR. ASPINALL.—Yes. What I am pointing out, my Lord, is that in a broad way it represents his course and nothing more than that. He is not seeing the other ship, the curtain of fog has now shut her out, and this is also to be remembered, that in a fog, any indications which are given by sound are often inaccurate, and most misleading. My submission to your Lordship is that that is not helpful to the tribunal, in any sense, in deciding this case.

My Lord, the only other matter I would like to invite your Lordship's attention to is the log of the *Storstad*, because that represents the story which they claim to be the real statement of the facts. This is a document which was written by Mr. Toftenes. He cannot do any work on charts, but he has got a very good literary style when he comes to write up the log; and it is to be remembered that what he did was this: he drafted it out. Now I thought at the time, when your Lordship made some remarks to the effect that it was not an unusual thing to do, I thought your Lordship was thinking that it was a scrap-book.

LORD MERSEY.—I was.

MR. ASPINALL.—I thought so at the time. Afterwards, when it came to your Lordship's knowledge that it was not a scrap-book, but the official final log-book, then I submitted your Lordship would be surprised to find that any drafts had been made, drafts of logs are not made, but a draft was made in this case and finally approved of. And finally, it finds its way into the log-book. May I read to your Lordship the approved form of the draft? It is a very clear and lucid statement of the case as now presented.

LORD MERSEY.—This is the ship's log.

MR. ASPINALL.—Yes, the official log. It could not be better exposition of the case, to do justice to anybody and it reads thus:

'At 2.30 o'clock saw about two points on our port bow the top lights of a steamer, and immediately afterwards the green side light of same. At 2.50 we saw the other steamer change its course and show its red side light, about one and one-half points on the port bow, and thus red to red.'

LORD MERSEY.—Now that is a critical point, is it not?

MR. ASPINALL.—Oh it is quite in order with the evidence we have heard.

LORD MERSEY.—From which?

MR. ASPINALL.—From the *Storstad*.

LORD MERSEY.—Yes, I know, but that is a movement that you say is entirely wrong.

MR. ASPINALL.—Quite. Then this document continues thus:

'The course of the *Storstad* was continued steady. Some minutes later the lights of the other steamer were hidden by a fog bank. The *Storstad* remained herself in clear weather, and a long blast of a whistle was heard which was answered by a similar one and the speed was at the same time reduced to

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slow. Now the *Storstad* also entered the fog. Immediately afterwards the engines were stopped and the steering was carefully watched so as to keep the ship on its course."

That statement seems an odd entry to put in the log. The steering was carefully watched so as to keep the ship on its course.

"Simultaneously three short blasts of the whistle were heard from the other boat, on the port bow, which was answered by a long blast. About five minutes afterwards the engines were stopped and as the vessel glided along against the downgoing current, the speed was so considerably reduced that fears were entertained that the vessel would take a sheer over to port. To prevent this, port helm was given. It proved, however, that the speed of the vessel was so considerably reduced that it remained on its course. We then gave two long blasts on our steam whistle. Immediately afterwards three blasts were heard from the meeting vessel; we then gave a few turns slow ahead to keep the ship on its course. The ship was then under the command of the chief officer, Alfred Toftenes, assisted by third mate S. Saxe. The chief officer, who as usual had orders to call the captain in case of foggy or hazy weather, now called the captain who also came upon the bridge at once. Immediately afterwards we saw the top lights of the other steamer, about three points on the port bow, and shortly afterwards the green side-light. We then gave full speed astern to prevent collision and gave three short blasts of the whistle. Shortly afterwards the collision occurred, so that the starboard side of the steamer, about midships, was struck by the bow of the *Storstad*. The engines were immediately stopped, and we gave full speed ahead to hold the vessels together and if possible to save those on board. The other steamer, however, proceeded with so much speed ahead that the bow of the *Storstad*, which proved to be several feet into the side of the other steamer, was twisted over to port, such as is now known. So that the *Storstad*, with the bow into the side of the other steamer, was swung nearly parallel with the latter. As the other steamer continued ahead, the bow was wrenched out of the hole in the side of the other steamer, and she disappeared in the fog. The engine was stopped, and all possible attention was paid to try to find the other steamer, from whom no signals were given in spite of several blasts from the *Storstad*. The boats were immediately swung out and manned and sounding of the holds were made by which we found fore-peak tank to be full but the holds and tanks apparently tight. About ten minutes after the collision, cries of distress were heard, and we manœuvred in the direction thereof as carefully as possible. When the steamer was sighted, the *Storstad* was manœuvred as near as circumstances would permit, and all the boats of the ship sent for assistance. The boats made several trips back and forward, and about 350 persons were saved on board the *Storstad*."

My Lord, my submission is this: this is a remarkable document for a gentlemen, in the position of Mr. Tofteness, to have compiled. Of course, if it is right, it means that the *Storstad* wins the day. My submission is that it is entirely wrong.

LORD MERSEY.—Now there are some gentlemen here, and I suppose they are here now, who represent the crew of the *Empress*. I suppose that none of them desire to say anything.

Mr. CECIL THOMSON.—No, my Lord.

LORD MERSEY.—Is there anyone else, with the exception of Mr. Newcombe, who is representing any interest here, who desires to say anything?

Mr. HAIGHT.—Might I correct an inadvertence in the statement made by Mr. Aspinall? I understood your Lordships to accept from his statement the idea that the

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Galway incident, so-called, occurred while the *Empress* was passing the *Alden*. That is a mistake, my Lord. Galway was steering from 10 to 12 on the occasion of her trip down the river. The *Alden* had been passed.

LORD MERSEY.—I think I understood that, what Galway said was that he noticed this irregularity in the steering gear and drew the attention of Murphy, I think, to it, and of the pilot.

Mr. HAIGHT.—That was not at the time the *Alden* was passing.

LORD MERSEY.—That may be, I think you are right about that. But what he said was, he drew the attention of Murphy and the pilot to the fact that the steering gear was not in order, and I think he said also that he drew the attention of another man, who has been drowned.

Mr. HAIGHT.—Yes, I think so, but as it stands there are two occasions, the *Alden* and the witness testified to one—

LORD MERSEY.—There is the *Alden* incident, and then there is the incident of Galway. That is right.

Mr. ASPINALL.—Yes, I am afraid I have been under a misapprehension, and I am told I am wrong. I think Mr. Haight is right.

LORD MERSEY.—I think he is.

Mr. HAIGHT.—There is one other point which comes very late in the day. At the opening of the hearing it appeared that a man of the name of Jones, one of the men on watch, had inadvertently been allowed to go to the other side. I learned that he has been sent for and that he is now in Quebec, having arrived, I believe, yesterday afternoon. It is exceedingly unfortunate to break in, but would the Court be willing that his testimony be taken out of court, by deposition and submitted?

LORD MERSEY.—Is that the man who arrived yesterday by the *Alsatian*?

Mr. HAIGHT.—I understand so.

LORD MERSEY.—I heard of four or five men who arrived yesterday by the *Alsatian*, and I waited yesterday to know whether either of you desired to ask that any one of these five men should be put into the box, and I was agreeably pleased when I heard that neither of you desired anything of that kind. I think, Mr. Haight, it is a little late now.

Mr. HAIGHT.—I realize it is, my Lord.

LORD MERSEY.—The whole of the case now is exposed to view. Your case, Mr. Aspinall's case, and I really don't think it would be wise now, after the evidence is closed, and speeches made, to re-open it.

Mr. HAIGHT.—I am very sorry that we did not know that he was here until the evidence was closed.

LORD MERSEY.—Now, Mr. Newcombe, it is your turn to begin.

Mr. NEWCOMBE'S SPEECH.

Mr. NEWCOMBE, K.C.—In the course of any observations which I purpose addressing to the Court I will refrain from making any reference to Galway, or the telemotor, or the steering gear of the *Empress*. It seems to me that this case has involved in it considerations more important than any attaching to these matters. In the suggestions which I propose to make, I find myself in some disagreement with both my learned friend representing the *Empress* and my learned friend representing the *Storstad*. I shall submit to the tribunal that it is possible, and perhaps desirable, for your Lordships to make a finding in this case that is consistent with the absence of any intention on the part of

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leading witnesses from either ship to misrepresent the facts as they lie within their memory. The case is certainly a very peculiar one. By the testimony of the *Empress* as well as by the testimony of the *Storstad*, both ships held their respective courses from the time they sighted each other's lights before the fog came on until the very moment of the collision. In approaching each other the *Empress* saw the *Storstad* on her starboard bow and the *Storstad* saw the *Empress* on her port bow. One ship therefore must have made a mistake as to the position of the other. The circumstance that the *Storstad* ultimately found the *Empress* on her starboard bow, or to the northward of her course would perhaps be regarded as being conclusive on the question as to whether these two ships had originally been red to red or green to green. As I say, the *Storstad* ultimately found the *Empress* on her starboard bow and to the northward of her course, and there is evidence that shortly before the collision the wheel of the *Storstad* was ported, and hard-a-ported. Coupled with that comes the statement that although these operations took place with the wheel, no effect was produced upon the course of the vessel. It may possibly be, as contended, that that is true, but at the same time I think your Lordships will find it impossible to accept the view that these operations should not have influenced the course of the *Storstad*. Thus you get a turning movement to the northward, the porting of the helm, the ship answering to this course and the *Empress* located where she was, according to the testimony of Captain Kendall to the northward are showing green to green with the *Storstad*. With regard to the porting of the helm of the *Storstad*, the testimony given by her witnesses seems to point very strongly to the honesty of the testimony that was given. If they were making up a case, if they were coming here, as has been suggested, to mislead the Court with false testimony, it was an entirely unnecessary proceeding to say anything about porting the helm; on the contrary, by so doing they have to throw up an obstacle to the success of their case here which perhaps they may find it impossible to demolish.

I would submit for the consideration of the Tribunal that the testimony in regard to the porting of the helm shows at least that there was an intention on the part of these Norwegian witnesses to give honest testimony. They may have been mistaken about many things but I submit that they were not intending to mislead, and I think the case can be disposed of consistently with the same assumption in reference to the testimony offered by the *Empress*.

My learned friend, Mr. Aspinall, in his speech, divided the case into six heads. It seems to me that it might be very well divided into two for my purposes, namely, first, the question as to the navigation of the ships; that is the direct, proximate question that we have to deal with—the immediate cause of the accident—and, secondly, as to defects in equipment, or in the manipulation of the equipment after the collision, which might have accelerated or increased the effects of that collision. These two points in the case run very much into each other. There are for a ship, independently of storm and tempest, periods or places of special danger—narrow channels, proximity to land or ice, fog where other ships may be encountered, thoroughfares such as such frequented harbours or roadsteads and their approaches, where ships resort and converge, involving risk of collision and requiring a corresponding measure of good judgment and caution. This case is very special and peculiar. It was a clear night; the ships observed each other for some time before any fog was encountered and were less than two miles apart and, according to the testimony of both ships, upon well ascertained bearings and courses before the fog shut them out. Capt. Kendall tells us that he landed his pilot one mile north of Father Point gas buoy. Thence he proceeded N. 47 E. magnetic (p. 57); then he had Cock Point buoy reported and then the *Storstad* lights were sighted six miles away three to four points on the starboard bow. It seems to be clear that the lights of the *Storstad* had been seen and reported by Carrol, the lookout, very shortly after they left Father Point and before the change in the course of the *Empress* was made to run down the river after making her offing from the land.

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They stood on until they had Cock Point buoy abeam, then ported to N. 73 E. magnetic (p. 60). This brought the *Storstad* one point on the starboard bow (p. 61) N. 87 E. by compass or 11 degrees on the starboard bow (pp. 60-62). The *Storstad's* lights were then open to starboard (p. 62). Then they noticed the fog bank coming from the land in a northwestern direction and they stood on until the *Storstad's* lights got misty. They could then see the mast and starboard lights and then they stopped the ship and went full speed astern giving three short blasts. They could even then see the *Storstad's* lights. That is shown at p. 67 and that is not an immaterial circumstance, I think, in the case. At p. 67, Captain Kendall says:

"Q. At the time when you gave the three short blasts, were you still seeing to any extent the lights of the *Storstad*?—A. Yes, I was.

Q. But dim?—A. Dim.

Q. And did you continue to see them for a short time?—A. I did."

On the following page:

"Q. That is what you last saw of the *Storstad*; where were they bearing from you?—A. About a point on my starboard bow.

Q. So that when you last saw the *Storstad*, she was away on your starboard bow, green to green?—A. Yes."

Then there were the three short blasts of the *Empress*. She was lying still in the water and at this stage the *Storstad's* lights had disappeared. Then he stopped the engines; he was lying N 75 E by compass. (p.69). Ten minutes elapsed from the time the fog shut out the lights until the collision occurred. Therefore, assuming the *Storstad* to have gone at ten knots through the fog, the ships were less than two miles apart at the time that they last sighted each other. Toftenes says at page 206 that they were a mile and three quarters or two miles apart. Upon the *Storstad* they say that they left Metis abeam at 12.30, Montreal time, that their course was W- $\frac{1}{4}$ S magnetic for six miles, then W by S magnetic for five miles, that they then changed to W by S magnetic and that at that time they saw the *Empress'* lights.

According to that, and the evidence on the part of both ships, I think, agrees, they were less than two miles apart when they lost sight of each other and when they had a bearing of one point. These are mere assumptions and there is no actual point ascertainable. It is impossible to chart the exact position of these vessels or to ascertain exactly where they were at different periods in their courses. The one started somewhere off Father Point and the other somewhere off Metis Point. They commenced their courses from there but you cannot locate that upon the chart because it is impossible to fix these exact points of departure. What I submit to the Tribunal is that all the substantial evidence in this case points to the fact that these ships were a great deal less than two miles apart when the lights disappeared in the fog. Two miles apart, with a bearing of one point on the starboard bow, as the *Empress* says she had the *Storstad*, would bring them together at a distance of half a mile, the area of a point at two miles would be half a mile. Having regard to the testimony, the *Storstad* would be half a mile to the south and the traversing of that distance, the making of that much nothing, could never be accomplished under the port helm, and the hard a-port helm, of the *Storstad*. She never did that; I submit that is absolutely certain.

LORD MERSEY.—She never what?

MR. NEWCOMBE.—She never travelled half a mile out of her course with a port or hard-a-port helm. She tells us that she was stopped. Mr. Haight contends that she had some way but it was very slow—stopped, perhaps, according to the weight of testimony. The ship had been going fast up to three o'clock; then slow at three o'clock; at two minutes past three stopped; then put engines ahead and at five minutes past three the collision. She was under a port helm less than three minutes. I do

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not suggest that the testimony is not true but I would not be surprised if you should find that she was under port helm for considerably less than three minutes. She could not have drifted very far to the north under that helm. What follows from that?—that the ships must have been closer together because this fog was a momentary thing, the most unfortunate thing that ever happened. It was a beautiful night; the fog came drifting across the river and did not last longer than the passage of the two ships over the space it covered but when the fog disappeared, as it did immediately, the *Empress* was gone. The ships must have been very close together when they entered the fog and bearing forward a point on the starboard bow of the *Empress*, the distance within which these two ships would pass each other, pursuing the courses upon which they were, would be measured by ship's lengths, and a very few ship's lengths.

It must be remembered that Captain Kendall tells us that when he came down the river on this voyage he had encountered fog on two occasions previously. He had passed through two fog banks before the one in which he met disaster. He had slowed; he had not reversed or stopped, or brought himself to a standstill, as he did on this occasion. He had eased his speed and passed through the fog. On this particular occasion, when he is entering the fog bank with the *Storstad* in front of him, bearing fine on his starboard bow, he reverses his engines, gives three blasts and brings his ship to a dead standstill just as soon as the power with which he is supplied possibly can stop the ship. What his further intention was I do not know but apparently it was to remain there. I submit it would be well to consider whether that was not an inconsequential and unexpected proceeding for him to take under the circumstances. Under what rule of navigation is that justified? Article 16 says that:

"Every vessel shall, in a fog, mist, falling snow, or heavy rain storm, go at a moderate speed, having careful regard to the existing circumstances and conditions."

They are to go at a moderate speed. Moderate speed, of course, has to be interpreted having regard to all the circumstances of the case. What would be a moderate speed in one set of facts would be immoderate in another. But according to the rule he has to go, he has not to reverse and stop.

'A steam vessel hearing, apparently forward of her beam, the fog signal of a vessel the position of which is not ascertained, shall, so far as the circumstances of the case admit, stop her engines, and then navigate with caution until danger of collision is over.'

That, I should suppose, is the part of the rule that applies to the *Storstad*. The *Empress* had the *Storstad* on her starboard bow and she knew she had her on the starboard bow. The *Storstad* had the *Empress* on her starboard bow and she thought she had her on her port bow. I think I can suggest to the Tribunal why she thought so. We have the *Empress* coming out from Father Point where the lights of the *Storstad* were first sighted by Carrol whom, you remember, when in the crow's nest, two or three minutes after he had climbed up there, (the boat having left Father Point), picked up these lights. She goes on to make the offing on a course of N. 47 E. magnetic, she pursues that course for a certain distance and she then turns to N. 73 E. If there were any one to tell us exactly where that turning took place and to say where the *Storstad* was at that time, I believe it would solve the riddle of this case. I suggest that when she changed her course there to run down the river N. 73 E. before she stood upon her course, she exposed her red light to the *Storstad* and it was when she exposed that light that the *Storstad* came to the conclusion that the ships were red to red and that they would pass clear. Probably the lookout and the watch were not very good on the *Storstad* and it may be that by some vagary of the fog they could see better from the *Empress* than from the *Storstad*; I do not know. Apparently the evidence indicates that when the *Empress* finally stiffened up on her course she

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exposed her green light and only her green light, but the *Storstad*, in view of the other impression which she got when the *Empress* ported her helm to work her course down the river, thought she was engaged with a ship red to red. Otherwise it would be ridiculous to suppose that this man ported his helm. They were listening for fog signals. It is said, and not denied, and I suppose it is true, that it is not very easy to locate precisely where a whistle comes from in a fog, and if you think you know where it comes from you are more inclined to believe that it does really come from that direction than if you do not know anything about it. If you are in a fog bank and you do not know there is a ship there at all and you hear a whistle there is nothing to incline the mind one way or the other as to the position of this sound. But if you have observed a boat and if you know its location until the fog shuts in you are quite likely to be influenced by that fact. It is upon some such consideration as that that the *Storstad* believed that they had the *Empress* to the southward of them and they were therefore trying to give a little broader berth under a port helm. They stopped—there can be no doubt that they stopped—they were going slow and the ship did not answer readily. It is said now that this young officer took hold of the wheel and turned it over full stop. Doubtless he did, but I am not so sure that he is chargeable with any breach of duty in respect to that. They had an order from the officer to port and they ported. Your Lordships will be advised, of course, by the assessors, who know much better than I about these things, but when he gets the order to port, the evidence tells us that the quartermaster turn the helm until he is told to steady. I suppose he is influenced somewhat by the fact that he has reached the point where the ship swings in answer to the movement of the wheel. If he was going very slow the wheel put a-port a few degrees may not have been answered by the ship. I understand that the third officer then took hold of the spokes and turned the wheel hard over. That is what they did and they did it no doubt because they thought they were getting away from the *Empress* by doing that rather than going towards her. Rule 16, I say, does not provide that she shall stop and rule 23 says that:

“Every steam vessel which is directed by these Rules to keep out of the way of another vessel shall, on approaching her, if necessary, slacken her speed or stop or reverse.”

That rule does not apply to the *Storstad*. She is one of those ships that is not directed by these rules to keep out of the way of the other. This is a case which is provided for under many rules and notably by the starboard rules. It was in answer to that rule, I suppose, that the *Empress* stopped or reversed but it is, I submit, a grave question whether this or any other rule would justify a proceeding of that kind. This was, I submit, an inconsequential proceeding not responsive to any rule and moreover a proceeding which might easily have been embarrassing to the *Storstad*. There is another thing; the *Empress* might have stopped on her way, she might have sounded her whistles, she might equally well have anchored and rung a bell but she could not escape from her obligation to use good seamanship in respect to the crossing of this vessel that was approaching her at a short distance and on a very fine bearing.

LORD MERSEY.—May I ask you Mr. Newcombe, what it is exactly that you contend for or suggest? Is it that neither of these ships was to blame?

MR. NEWCOMBE.—No, I do not say that.

LORD MERSEY.—Or that both ships were to blame?

MR. NEWCOMBE.—I am suggesting that there was an improper use of the port helm by the *Storstad*, and an improper reversing and stopping on the part of the *Empress*. It is for the Court to consider.

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LORD MERSEY.—I thought you began by saying that it was possible to deal with the two cases without imputing anything like false swearing to either.

Mr. NEWCOMBE.—I suggested that.

LORD MERSEY.—That is what you want us to consider?

Mr. NEWCOMBE.—Yes, my Lord. It does not follow from that that there was any fault on either party; it is consistent with that that there may have been fault on both sides.

LORD MERSEY.—I can understand a mistake of judgment on each side, which is, of course, a very different thing from negligence. I can understand negligence on one side and not on the other, and I can understand negligence on both sides. I want to know which of the three it is that you are suggesting.

Mr. NEWCOMBE.—I am suggesting negligence on both sides; as to whether or not the negligence I suggest with respect to the *Empress* goes to the extent of legal fault I have no observation to offer. But certainly the accident could not have happened if the *Empress* had not taken this extraordinary course of reversing and stopping almost in the track of the approaching *Storstad*.

LORD MERSEY.—According to your theory, the *Empress* was stopped in what you might call the distorted track of the *Storstad*.

Mr. NEWCOMBE.—Very close to the track.

LORD MERSEY.—You are putting it, you know, that the *Storstad* was wrong in porting her helm. If she was, the result was that she brought herself up against the approaching *Empress*.

Mr. NEWCOMBE.—So she did, my Lord; I would suppose that she would have gone clear otherwise.

LORD MERSEY.—That is the fault that you attribute to the *Storstad*; now tell me again what is the fault that you attribute to the *Empress*?

Mr. NEWCOMBE.—In view of the fact that the steamers were proceeding upon courses which were divergent on an angle of five and three quarter degrees, and that the proceeding at moderate speed by the *Empress* would take her every moment farther and farther away from the *Storstad*, why does he stop the moment the vessel comes under the first impression of fog and take the way off the ship and lie there so close to the track? It is true that the *Storstad*, if she held her course, would have gone clear by a ship's length, perhaps, or a close shade, but I call the attention of the tribunal to the question—although I am not making any contention about it—as to whether that was good seamanship; as to whether that sort of conduct of a ship carrying so many passengers is as should be expected? Did Captain Kendall discharge his responsibility, having regard to the fact that there was, besides the two, not another ship in sight?

LORD MERSEY.—You say that he ought to have gone on in the fog at moderate speed?

Mr. NEWCOMBE.—At moderate speed.

LORD MERSEY.—And that if he had gone on in the fog at moderate speed, the deflecting *Storstad* should never have touched him?

Mr. NEWCOMBE.—Never have touched him. I myself should not have seen any impropriety in his continuing his northerly course somewhat further, in view of the fact that he had a steamer on his starboard bow, but he took the easterly course. He was in a position where he could have used his starboard helm without limit. There was nothing to the northward to affect him; he had 20 miles of seaway, and he had a ship approaching him on a fine bearing—not more than half a mile away—on his star-

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board bow. Now, why stop there so close and take the chances of any such accident as that which has happened?

That brings me to what is involved in the consideration of this phase of the question. If there were fog there, as there admittedly was; and if in respect of such cases it was necessary to formulate a rule—because this seems to be a rule which is not printed in the rules of navigation: that you must reverse and immediately stop—why not apply at the same time the rules with relation to the water-tight doors?—Rule No. 50 of the regulations, which are in proof, says:

‘The Commander will see that all times in foggy weather or in falling snow hands are stationed to close instantly all water-tight doors which are not already closed. All self-closing doors will be kept closed. If at any time fog or snow shut down in the Gulf of St. Lawrence or St. Lawrence river, the same special precaution must at once be taken, entry being made in the Ship’s Log Book and in the Engineer’s Log Book of the time of opening and closing.’

LORD MERSEY.—What are these rules?

Mr. NEWCOMBE.—These are the rules of the Company, which are in proof, for the navigation and discipline of the steamships of the Canadian Pacific Railway Company, Atlantic services. These are not official rules.

LORD MERSEY.—These are what may be called the domestic rules of the Canadian Pacific Railway Company.

Mr. NEWCOMBE.—Yes; of course not affecting the liability in Admiralty, but for the purposes of the tribunal I call attention to them.

Sir ADOLPHE ROUTHIER.—They are not binding upon either party.

LORD MERSEY.—It lays upon him no legal obligation.

Mr. NEWCOMBE.—No legal obligation, but it is a question of what suggestions your tribunal is going to make with regard to water-tight doors.

LORD MERSEY.—It has nothing to do with the *Storstad*.

Mr. NEWCOMBE.—Nothing to do with the *Storstad* at all, certainly not.

Chief Justice McLEOD.—Does the rule not say that there shall be a man at each door?

Mr. NEWCOMBE.—Yes, (reading):

‘The Commander will see that at all times in foggy weather or in falling snow hands are stationed to close instantly all water-tight doors which are not already closed.’

Rule 44 says:

‘In fog or snow speed is always to be reduced. Water-tight doors are to be ready to be closed instantly, and every possible precaution taken for the safety of the ship.’

LORD MERSEY.—Your complaint is that he not merely reduced speed, but stopped?

Mr. NEWCOMBE.—He stopped, my Lord, contrary to the rule. Now, rule 130 says:

‘In the event of fog or thick weather and in narrow waters, orders will be issued from the bridge to stand by to close all water-tight doors between engine rooms and boiler rooms and in bunkers. All self-closing doors will always be kept closed.’

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Now, it would appear that this ship went down very much in the condition in which she stood before the fog came on. Doors that were open remained open; those that were closed remained closed. Unfortunately, through the loss of so many of the hands and the consequent lack of evidence, it is impossible to say exactly what the condition of those doors was. We know that one door was closed leading into the engine room; we know that other doors were not closed because they could not be closed or because the place from which they were worked could not be reached. According to the rule to which I have referred, a steward or hand should have been standing over each one of the machines which operate the doors the moment they entered the fog. It takes one man to close them, and if there had been a man there—apparently the siren was sounded immediately as a signal for the closing of the watertight doors, and the getting out of the boats—there would have been ample time, I should suppose, before the members of the crew became disturbed by the enormous list which the vessel had, to close those doors. Whether that would have saved the ship or not, it is impossible to tell.

LORD MERSEY.—I should think that the men could have been much more usefully employed in taking out the lifeboats.

Mr. NEWCOMBE.—Well, that is a matter, perhaps of conjecture. The vessel was built in 1906, and it may be that the system of watertight doors in the bulkheads existing on board her at the time of her loss was one which might not now be considered to be quite up to date. The evidence shows that the water-tight doors fitted in her main bulkheads were sliding doors, individually operated from the deck above. In other words, each door required the services of a man to shut it. In the *Empress* a man was appointed to operate each door and the practice appears to have been in case of emergency for the siren to be sounded as a signal for the men to go to their respective doors, and close them. The siren was sounded in the present case, but it is evident that the operation of closing one of these doors by hand would take some minutes, and there is no evidence that all the bulkhead doors either were or could be closed before the vessel keeled over to starboard very shortly after the collision. Of course, there is an additional difficulty, as I understand it, in the closing of these doors, caused by the list. When the vessel listed over the vertical doors had to be worked up hill, so that it would have been a difficult operation to close these doors with such an extremely heavy list on the ship. Having regard to the fact that the vessel sank so quickly after being struck, it would seem that all the water-tight doors in the bulkheads were not closed and that the water, instead of being confined to the compartments into which it entered, spread all over the ship.

It would seem obvious that the less time which is occupied in case of emergency in closing bulkhead doors the better. Loss of even a short time in effecting this may represent the difference between safety and the loss of the ship and many lives. It would seem to be most desirable that the watertight doors in the main transverse bulkheads, or, at all events, all those situated below the load water line, should be capable of being automatically and simultaneously closed from a station situated on the bridge of a vessel, if such an arrangement be practicable.

Very specific and urgent directions are laid down in the companies book of rules and instructions to their masters and officers as to the closing of the water-tight doors in the bulkheads. Rule 50 directs that special precautions are to be taken in this respect at all times in foggy weather and at any time when fog or snow shuts down in the Gulf of St. Lawrence and St. Lawrence river. In this case the master of the *Empress* saw a bank of fog coming across the river and knew that his vessel would be enveloped in it, but it does not appear from the evidence that at that time he considered it necessary to station men at the bulkhead doors to close them. Men were allotted to the bulkhead doors, and each man knew that it was his duty to close his door when the order to do so reached him. The person who had the knowledge of the necessity

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for closing the doors was on the bridge or on the deck; the man whose duty it was to do it would have no knowledge until he was told or the order was conveyed to him in some way. The sounding of the siren was a recognized signal: "Close water-tight doors; each man to his boat." But this signal was not given before the collision, or, at all events, in time for the men to get to their respective doors and close them before the water rushed in after the collision had happened. Some of the men were in bed and were only awakened by the crash, and it seems clear from the evidence that though efforts were made, some of the doors could not be closed, either because the vessel had listed heavily to starboard, or by reason of the water which was rushing into her.

The list taken by the vessel after receiving the damage may have resulted in the port-holes in the cabins and passageways being submerged, and if some of them were open, might not sufficient water have poured through them to bring about what in fact occurred, that is, the capsizing and foundering of the vessel in about 15 minutes? If this explanation of the sudden foundering of the vessel be accepted by the court, after they have considered the evidence as the right one, the question arises: Could the disaster have been averted, and if so, how?

There appears to be no way of doing away with or of preventing collisions altogether, and the story of this case conclusively proves that one of the results of a collision may be that the vessel struck may list heavily over to the side on which the injuries are received; therefore it is necessary to be able to shut the water-tight doors immediately in case of emergency.

If it has been proved that open port-holes played an important part in the quick foundering of the ship, here is an object lesson which does not require any confirmation by similar disasters in the future. Never again ought open port-holes to be allowed to contribute to the effects of a collision. Should not the rule be that when navigating in fog and perhaps also in narrow or crowded waters where possibilities of collision are frequent, the master who is on the bridge and who knows the circumstances should communicate an order by some recognized signal to the stewards or other people in charge of the port-holes, but who are down below and may not be alive to the circumstances which necessitate the closing of all port-holes; that they be closed and not opened again until the vessel is out of the fog or crowded waters?

These are the suggestions which I submit for the consideration of the tribunal with regard to water-tight doors and port-holes. They are that when the vessel is in a fog, and, perhaps when in crowded waters, in any case where it is reasonably probable, or perhaps, possible, that a collision may be anticipated, it is too late to wait until after the event before closing the doors and the ports. These doors, so far as they may be closed consistently with the working of the ship, should be immediately closed. All port-holes should be closed and all precautions taken which this case suggests to minimize or render impossible the recurrence of such a calamity.

My Lord, that is my summing up of the case. I have referred your Lordships to the circumstances of the collision, to the fact that the *Empress* stopped upon or very close to the course of the *Storstad* when by pursuing the rule of navigation she would have gone away from the *Storstad*. I have referred to the closing of the water-tight doors and the closing of the ports, and I suggest that this case points very strongly to the desirability of a recommendation upon the part of the tribunal to navigators to see that in all circumstances of risk these water-tight doors and port-holes are not again allowed to play the part which they played in the destruction of the *Empress* and the loss of so many lives.

LORD MERSEY.—Thank you, Mr. Newcombe. Now that we have heard all the evidence and the addresses of Counsel, I should like, on behalf of my learned colleagues and myself, to say a few words.

This Court is constituted by the Canadian Government under a special Act, partly of the nominees of that Government and partly of nominees of the United Kingdom. It

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was so constituted because on the one hand it was desired by the Canadian Government that the enquiry should take place in Canada, and on the other it was considered by the Government of the United Kingdom that as the *Empress of Ireland* was registered in the United Kingdom it was desirable that the Mother Country should be represented on the tribunal. It was felt by both Governments that their co-operation in this manner would result in the institution of an inquiry of the most exhaustive and searching character possible into the cause of this lamentable disaster. I think the proceedings in this court from day to day show that this object has been attained.

There is one further matter to which I should like to allude. I refer to certain words which were used by Mr. Haight this morning, from which he appeared to be under the impression that Counsel might in some way or another have rendered greater assistance to the Court. I can assure Mr. Haight that he can dismiss that impression from his mind. On the contrary, I should like to take this opportunity of saying—and I think I may speak on behalf of my colleagues as well as myself—that we have been much impressed by the ability, the fairness and the patience with which Counsel for all the parties concerned have put forward their cases. These remarks apply also to Mr Newcombe, upon whom the onerous responsibility has fallen of seeing that all the facts and all the evidence should be put before the Court which would enable the Court to form a judgment upon the various questions submitted to it. We thank all these gentlemen cordially for the assistance which they have given us.

We must now address ourselves to the heavy task of sifting and considering the evidence. We hope to be able to do this work within a fortnight or thereabouts, and we shall then be in a position to make our report.

The Commission adjourned *sine die*.

REPORT

OF

COMMISSION OF INQUIRY INTO THE CASUALTY TO
THE BRITISH STEAMSHIP

“EMPRESS OF IRELAND”

WHICH SANK AFTER COLLISION WITH THE NOR-
WEGIAN STEAMER

“STORSTAD”

IN THE

RIVER ST. LAWRENCE ON MAY 29, 1914

REPORT OF COMMISSION OF INQUIRY INTO THE CASUALTY TO THE
BRITISH STEAMSHIP "EMPRESS OF IRELAND" WHICH SANK AFTER
COLLISION WITH THE NORWEGIAN STEAMER "STORSTAD" IN THE
RIVER ST. LAWRENCE ON MAY 29, 1914.

CHATEAU FRONTENAC, QUEBEC, 11th July, 1914.

To the Honourable

J. D. HAZEN,

Minister of Marine and Fisheries.

SIR,

"EMPRESS OF IRELAND."

I have the honour to transmit to you the Report of the Commissioners appointed by you to inquire into the foundering of the above named vessel.

Believe me,

Most respectfully yours,

(Sgd) MERSEY.

WARRANT OF APPOINTMENT OF COMMISSION.

CANADA.

To the Right Honourable JOHN CHARLES, BARON MERSEY, The Honourable EZEKIEL MCLEOD, Chief Justice of New Brunswick and Local Judge in Admiralty of the Exchequer Court of Canada for the New Brunswick Admiralty District, and The Honourable Sir ADOLPHE BASILE ROUTHIER, Local Judge in Admiralty of the Exchequer Court of Canada for the Quebec Admiralty District.

GREETING:

KNOW YOU that under and by virtue of the provisions of Part X of the Canada Shipping Act as amended, and in virtue of all other powers in that behalf in me vested, I, the Honourable John Douglas Hazen, the Minister of Marine and Fisheries of Canada, do hereby nominate, constitute and appoint you, the said John Charles, Baron Mersey, Ezekiel McLeod and Sir Adolphe Basile Routhier to be Commissioners to hold a formal investigation under and subject to the requirements of the said Part X of the Canada Shipping Act as amended, into and concerning a shipping casualty which I, the said Minister, consider to be of extreme gravity and special importance, and with respect to which I have ordered a formal investigation under the authority of the said statute, whereby the British steamship "*Empress of Ireland*" of about 8,028 tons, registered tonnage, official number 123972, of which the Canadian Pacific Railway Company was the registered owner and H. G. Kendall was the Master, was sunk in collision with the Norwegian steamship "*Storstad*," in the River St. Lawrence, on the morning of Friday, the twenty-ninth day of May, 1914, and many lives of the passengers and crew of the said steamship "*Empress of Ireland*" were lost.

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TO HAVE and to hold, exercise and enjoy all the office of Commissioners as aforesaid unto you the said John Charles, Baron Mersey, Ezekiel McLeod and Adolphe Basile Routhier, together with all and every the powers, rights, authority and privileges, and subject to the obligations and requirements, under and by virtue of the said Part X of the Canada Shipping Act to or in respect of the said office of right or by law appertaining or enacted.

And I do moreover designate you, the said John Charles, Baron Mersey, to be President of the said Commission or Court hereby constituted.

Given under my hand at Ottawa this 13th day of June, in the year of Our Lord one thousand nine hundred and fourteen.

(Sgd.) J. D. HAZEN,

Minister of Marine and Fisheries of Canada.

INTRODUCTION.

The terms of our warrant of appointment require us to inquire into the casualty whereby the SS. *Empress of Ireland* was sunk in collision with the Norwegian steamer *Storstad*. We have interpreted this reference as requiring us to investigate not merely the question of responsibility for the collision; but also the questions why the ship sank so quickly afterward, whether adequate measures were taken to save the lives of those on board, and whether any steps can be taken in the future to prevent or mitigate the terrible consequences of similar disasters.

It will accordingly be convenient to divide our report into sections dealing with the following matters:—

1. Description of the two ships;
2. Summary of the stories of the two parties;
3. Consideration of who was to blame for the collision;
4. Reasons for the rapid sinking of the ship;
5. The life saving appliances on board the *Empress of Ireland*, and the measures taken to save life by both vessels;
6. Answers to questions propounded by the Canadian Government.
7. Suggestions.

The Commission met on June 16 and sat for the purpose of hearing evidence and the addresses of Counsel until Saturday, June 27. We heard 59 witnesses.

We were assisted by the advice of the following assessors:—

Commander CABORNE, C.B., R.N.R.,
Captain L. A. DEMERS, F.R.A.S.,
Commander HOWE, R.N.,
Professor J. J. WELCH, M. Sc., M.Inst., C.E.

The parties were represented by counsel as follows:—

For the Crown:

Mr. E. L. NEWCOMBE, K.C., Deputy Minister of Justice,
Mr. EUSÈBE BELLEAU, K.C.

For the Canadian Pacific Railway Co.:

Mr. BUTLER ASPINALL, K.C.,
Mr. E. W. BEATTY,
Mr. F. E. MEREDITH, K.C.,
Mr. A. R. HOLDEN, K.C.

For the master, engineers and officers of the SS. *Empress of Ireland*:

Mr. AIMÉ GEOFFRION, K.C.,
Mr. CECIL THOMPSON.

For the owners of the SS. *Storstad*:

Mr. C. A. DUCLOS, K.C.,
Mr. C. S. HAIGHT,
Mr. J. W. GRIFFIN,
Mr. N. B. BEECHER.

For the Dominion Coal Co., charterers of the SS. *Storstad*:

Mr. H. MACINNES, K.C.

For the National Sailors and Firemen's Union of Great Britain and Ireland:

Mr. G. F. GIBSON, K.C.

REPORT

PART I.

DESCRIPTION OF THE TWO VESSELS.

(a) SS. 'EMPRESS OF IRELAND.'

This ship was designed by the late Dr. Francis Elgar and was constructed by the Fairfield Shipbuilding and Engineering Company, at Govan, in 1906, under Board of Trade and Lloyds Survey, to class star 100 A1 at Lloyds.

She was of shelter deck type, having a straight stem and elliptical stern. Her length between perpendiculars was 550 feet, breadth moulded 65½ feet, and depth moulded to upper deck amidships, 40 feet.

Her official number was 123972, gross tonnage 14,191, and net tonnage, 8,028.

DECKS.

Four complete steel decks, viz.: shelter deck, upper deck, main deck and lower deck, ran from stem to stern, the minimum heights of the first three above the designed load line (27½ feet from underside of keel) being 21, 13 and 5 feet respectively, whilst the lower deck amidships was 3 feet below that line. A steel orlop deck was fitted before and abaft the machinery spaces, 8 feet below the lower deck, whilst 8½ feet above the shelter deck, a lower promenade deck extended for a length of about 390 feet, practically from the stern, and a forecastle of the same height extended over a length of 84 feet. Above the lower promenade deck, an upper promenade deck and a boat deck were fitted for nearly one-half the length of the vessel amidships; the upper promenade deck was 8 feet above the lower promenade deck, and the boat deck was 45½ feet above the designed water line.

WATERTIGHT BULKHEADS.

The transverse watertight bulkheads were 10 in number, and terminated in each case at the upper deck. They were numbered 1 to 10 from the bow, the collision bulkhead being the first named. No. 1 bulkhead, 34½ feet from the bow, was stepped forward at the lower deck for a length of 9 feet, and a continuation of the forward part of this bulkhead downwards, formed the forward bulkhead of chain locker. No. 2 bulkhead was situated 40½ feet abaft No. 1; No. 3 was 49½ feet abaft No. 2; No. 4 was 51¾ feet abaft No. 3, and formed the forward limit of the machinery spaces, being on the forward side of the cross coal bunker at the fore end of the forward boiler room.

No. 5 bulkhead was situated at the after end of the forward boiler room, 87¾ feet abaft No. 4. It had cross coal bunkers on both its forward and after sides. It was stepped forward at the main deck for a distance of about 25 feet, forming a watertight flat at the main deck, and was then carried up to the upper deck. A watertight passage was constructed amidships on the after side of this bulkhead at the boiler room floor level, and a watertight door was fitted at its after end for access between the forward and after boiler rooms. This passage extended dust-tight through the cross coal bunkers on the forward side of this bulkhead. A partly watertight and partly dust-tight steam pipe passage was also fitted amidships in the bunkers above the communication passage just named. No. 6 bulkhead was situated 87¾ feet abaft No. 5 and formed the after end of the after boiler room, separating this space from the engine room; it had a cross coal bunker on its fore side. A watertight recess 11 feet wide extended forward under the lower deck for a distance of 4 feet 6 inches, and this recess contained the watertight door providing access from the engine room to the after boiler room, a dust-tight passage being fitted on the fore side of this door through the cross coal bunker. It also had a watertight pocket or recess on the starboard side above the main deck, extending back to the engineer's gangway at ship's

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side and fitted with a watertight door at its after end. No. 7 bulkhead was fitted at the after end of the engine room 69 $\frac{3}{4}$ feet abaft No. 6, and was stepped forward horizontally at the orlop deck for a distance of 18 feet, being then carried vertically to the upper deck.

No. 8 bulkhead was situated 22 $\frac{1}{2}$ feet abaft No. 7. It was recessed aft one frame space in the centre portion of the ship below the orlop deck, the remaining portion of the bulkhead extending vertically from keel to upper deck. No. 9 bulkhead was 40 $\frac{1}{2}$ feet abaft No. 8, and formed the after limit of the cellular double bottom.

No. 10 bulkhead was 33 $\frac{3}{4}$ feet aft of No. 9, and 31 $\frac{3}{4}$ feet forward of stern. It was stepped aft for a distance of 20 feet at the lower deck, and then extended vertically to the upper deck.

The watertight bulkheads were constructed in accordance with the recommendations of the Board of Trade Bulkhead Committee of 1891, the specification to which the vessel was built being based on these requirements as regards watertight subdivision, and the vessel was so built.

The bulkheads were so placed that any two adjacent compartments might be flooded when floating at a mean draught of 27 $\frac{1}{2}$ feet, without sinking the ship below the margin-of-safety line drawn below the upper deck, in accordance with the recommendations of the above-mentioned committee.

WATERTIGHT DOORS.

A number of watertight doors, 24 in all—were fitted in these bulkheads as detailed below, those on the lower and main decks being of the horizontal-sliding type worked by rack and pinion; two in the holds were of the vertical sliding and the others were of the horizontal-sliding type.

POSITION AND DESCRIPTION OF WATERTIGHT DOORS.

—	In Hold.	Orlop Deck.	Lower Deck.	Main Deck.
No. 1 bulkhead....	Nil.	Nil.	Nil.	Nil.
No. 2 "	Nil.	Nil.	Nil.	Nil.
No. 3 "	Nil.	Nil.	Nil.	2 (H. S.) 6' st. and port 6' 6" x 3' in passages.
No. 4 "	Nil.	Nil.	1 (H. S.) 6' x 3'.	2 (H.S.) 6' 6" x 3' star. and port in passages.
No. 5 "	1 (V.S.) 5' 6" x 2' pass. between boiler room on centre line.	Nil.	2 (H.S.) 6' x 3' star and port in coal bunkers.	2 (H.S.) 6' 6" x 3' star. and port side of uptake casing in passages.
No. 6 "	1 (V.S.) 5' 6" x 2' aft end of passage to engine room on centre line.	Nil.	2 (H.S.) 6' x 3' star and port in coal bunkers.	1 (H.S.) 6' 6" x 3' star bulkhead pocketed aft to gangway port above coal bunker.
No. 7 "	Nil.	1 (H.S.) 5' x 2' 1".	Nil.	2 (H.S.) 6' 6" x 3' star. and port in passageways inside cabins.
No. 8 "	2 (H.S.) 5' x 2' 1" leading to shaft tunnels.	Nil.	Nil.	2 (H.S.) 6' 6" x 3' star. and port in passageways.
No. 9 "	Nil.	Nil.	Nil.	2 (H.S.) 6' 6" x 3' star. and port in passageways between cargo hold trunk and cabins.
No. 10 "	Nil.	1 (H.S.) 4' x 2' fore end steering compartment.	Nil.	Nil.

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All the gearing for working these doors was carried to the upper deck level, and each door was worked by hand power, a handle or key being provided adjacent to the working position. All the doors were fitted with sill plates.

CELLULAR DOUBLE BOTTOM.

A cellular double bottom was worked between bulkheads 1 and 9, 4 feet 6 inches in depth and 47 feet in breadth at its widest part; its total capacity was 1,522 tons of water.

APPROPRIATION OF SPACES.

The appropriation of spaces below the upper deck was as follows:—

APPROPRIATION.

SPACES.

Forward of No. 1 or collision bulkhead.

Trimming tank to orlop deck, chain locker to lower deck and store rooms elsewhere.

Between bulkheads Nos. 1 and 2.

Cargo to lower deck. Space above, up to upper deck available for either steerage passengers or cargo.

Between bulkheads Nos. 2 and 3.

Cargo to lower deck; steerage passengers to main deck; 3rd class passengers above main deck.

Between bulkheads Nos. 3 and 4.

Deep tanks for stowage of cargo or for water ballast up to lower deck; and 3rd class accommodation above that deck.

Between bulkheads Nos. 4 and 5.

Forward boiler room (to main deck) containing 3 double-ended boilers forward and one single-ended boiler aft; a coal cross-block was worked at each end, with side bunkers. The bunker bulkheads throughout were not water tight. These bunkers are subdivided by a non watertight flat at the height of the lower deck, so that the upper or reserve bunkers may be utilized when required for the carriage of cargo. The forward cross block below lower deck level is subdivided at the middle line of ship by a longitudinal bulkhead pierced by two manholes, each 3 feet deep and 1½ feet wide, whilst the after block was subdivided at its lower portion by the practically watertight sides of a middle line passage way communicating with the after boiler room. Above this passage way, and immediately below the lower deck, a similar passage for steam pipes was fitted, the two passages being connected by a middle line partition containing manholes. The total depth of the passageways was about fifteen feet.

Above the main deck there was accommodation for third class passengers.

Between bulkheads Nos. 5 and 6.

After boiler room (to main deck), containing three double-ended boilers aft and two single-ended boilers forward with uptakes leading to after funnel, and having a cross block at each end, with side bunkers. As in the forward boiler room a non-watertight flat was worked at the height of the lower deck, and for the same purpose. The forward cross-block was subdivided amidships by passages and partitions in a similar manner to that described for the after block of the forward boiler room, except that the lower passage way was absolutely watertight from bulkhead No. 5, to the watertight door at the after end of passage way. The after cross-block also had a communication passage through it to the engine room at the stockhold level, a partition lightened by

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manholes joining this passageway to lower deck and above this deck was worked a steam pipe passage similar to those already described.

Above the main deck the 3rd class dining saloon was situated at the fore end, and store rooms were located abaft this.

ACCOMMODATION.

Between bulkheads Nos. 6 and 7.

Engine room up to main deck, containing two sets of twin-screw quadruple-expansion engines, with a reserve bunker or cargo space on each side between lower and main deck; from thence to upper deck the 2nd class bath room, etc., were arranged abreast engine room casings.

Between bulkheads Nos. 7 and 8.

Cold storage chambers and fresh water tanks up to main deck; 2nd class cabins above main deck.

Between bulkheads Nos. 8 and 9.

Cargo up to main deck; 2nd class cabins above this deck.

Between bulkheads Nos. 9 and 10.

Cargo up to main deck; 2nd class cabins above this deck.

Abaft No. 10 to stern.

Steering compartment up to lower deck; store rooms above this deck.

Between the upper and shelter decks 3rd class passengers were accommodated at the forward end. Abaft this, on the starboard side, a range of 1st class passengers' cabins (inner and outer) extended to the engine room casing, with 2nd class accommodation further aft; on the port side the stewards, engineers and cooks were accommodated, with stores, etc. Right aft, on both sides of the ship, the firemen were berthed, whilst baggage, mail and other rooms were arranged fore and aft at the middle line. The seamen's quarters were under the forecandle deck.

The houses above the shelter deck contained accommodation for first class passengers, whilst the Marconi house was on the boat deck.

ACCESS TO DECKS.

Provision was made for the necessary means of access to the upper, promenade and boat decks from the various compartments utilized for the classes of accommodation carried.

SIDELIGHTS.

The lowest (and partial) range of sidelights was forward in the 3rd class and steerage quarters on the lower deck. These lights were extra strong ordinary brass sidelights, 10 inches diameter clear glass, fitted with plugs and hinged cast-iron covers. A number of these were of the automatic ventilating type. Between the main and upper decks there was a complete range of sidelights of the size and types just mentioned, (except that those in the 3rd class dining saloon were 12 inches diameter) whilst those in the forecandle were also 10 inches diameter clear glass. Between the upper and shelter decks the sidelights were 12 inches diameter clear glass, and between the shelter and the lower promenade decks 16 inches and 14 inches diameter. In the deck houses above the lower promenade deck there were rectangular sliding or hinged windows about 20 inches by 14 inches in the clear.

The minimum heights above the designed water line of the lower edges of the ranges of circular ports were:—

Ports between lower and main decks..	5 feet.
“ “ main and upper decks..	11 “
“ “ upper and shelter decks..	19 “
“ “ shelter and lower promenade decks.. . . .	27 “

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The height first given above was that of the furthest aft of the partial range of ports; the others are the heights of the ports amidships, so that forward and aft the ports were higher than indicated above on account of the sheer of the decks.

The vessel was provided with a single plate rudder of partially balanced type, actuated by Brown's steam steering gear, with telemotor; the gear was placed right aft on the orlop deck below water. The rudder was increased in size in 1908, and when so augmented its area was 227 square feet or 1.53 per cent of the immersed middle line area. The steering engine was controlled by telemotor from the wheelhouse and also from the promenade deck aft, an indicator being fitted in wheel house. There were sufficient boats for all on board, and wireless telegraphy and submarine signalling apparatus were installed.

The main propelling machinery of the vessel was of the twin screw quadruple expansion type, each engine having four cranks, with working parts balanced on the Yarrow-Schlick-Tweedy System. The four cylinders were respectively 36-inch, 52-inch, 75-inch and 108-inch in diameter with a stroke of 5 feet 9 inches.

Steam was supplied from six double-ended and 3 single ended boilers fitted in two boiler rooms as previously described.

The maximum seagoing speed of the vessel was about 18 knots, and the machinery could develop about 18,000 I.H.P.

(b) SS. 'STORSTAD.'

This vessel was constructed by Messrs. Armstrong, Whitworth and Company, Limited, of Newcastle-on-Tyne, in 1910.

She is 440 feet long between perpendiculars, 58.1 feet beam, and has a moulded depth of 28 feet 8 inches and a mean draught when loaded of 25½ feet.

The vessel was constructed on the Isherwood longitudinal system. She is divided into 8 watertight compartments by 7 transverse bulkheads, No. 1, or the collision bulkhead, being about 24 feet abaft the stem.

A cellular double bottom extends the whole length of the vessel, arranged for water ballast, and trimming tanks are also fitted in the two compartments at the ends of the vessel.

The stem of the vessel consists of a forging made in two parts, scarphed and riveted. The longitudinal frames on each side are about 18 inches apart at the stem, and corresponding frames on the two sides are secured together by triangular bracket plates.

The vessel was fitted with two stockless anchors in cast iron hawse pipes, the flukes projecting 18 inches from the ship's side.

She is capable of carrying about 10,800 tons of coal or cargo at the above mean draught, and her main propelling machinery consists of a 3 cylinder triple-expansion engine, of about 4,000 I.H.P., steam being supplied by 3 single-ended cylindrical marine type boilers capable of giving the vessel an average speed of about 10 knots when loaded.

She is fitted with a rudder of the ordinary type supported by pintles, which is capable of being worked both by hand and steam gear.

PART II.

THE TWO STORIES.

(1) THE STORY OF THE SS. 'EMPRESS OF IRELAND.'

Navigation of the vessel up to the point of sighting the 'Storstad.'

The *Empress of Ireland* left Quebec at about 4.20 p.m. (Montreal time) on the 28th May, in charge of a Quebec pilot, Adelard Bernier by name, with a crew of 420 hands, and 1,057 passengers, and some general cargo, bound for Liverpool.

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The master of the vessel was Captain H. G. Kendall, who has held an Extra Master's Certificate for twelve years, and has been in the service of the Canadian Pacific Railway Company for eleven and a half years, during the last six and a half of which he had been in command of ships of that company. He first took command of the *Empress of Ireland* on May 1st, 1914, at Halifax, N.S. In addition to the captain, there were six certificated officers, of whom four held Master's Certificates, and two Mate's Certificates. The Engineers were twelve in number, of whom we were informed that eleven held first-class certificates, though only four were credited with such certificates in the Articles. The crew was constituted as follows: Deck Department, 59, including officers; engine room department, 130; and victualling department, 222. In addition to these there were four supernumerary engineers, and five musicians.

From 12 to 4 a.m. on the morning of May 29, it was the first officer's watch, the third officer being associated with him to form a double watch. The captain himself, however, remained on the bridge and had charge of the navigation of the vessel. In addition there was a quartermaster at the wheel, and another quartermaster (Murphy), and a deck boy standing by. Of these six persons only the master, first officer and Murphy survive.

It was a beautiful and clear night with a young moon and stars shining; but before reaching Father Point, a slight fog had been met on two occasions (1) between Red Island and Bic, and (2) between Bic and Father Point, on both of which occasions speed was reduced to half speed and slow, and the whistle was used.

The pilot was dropped about a mile north of Father Point gas buoy, at about 1.20 a.m., the weather being then fine and clear. A course of N. 47 E. magnetic was then set in order to obtain an offing from the shore, and the vessel proceeded to sea at full speed, which the master states was between 17 and 18 knots an hour.

After the vessel had been running on this course for a little time, the Cock Point gas buoy was sighted by the lookout in the Crow's nest and reported, and shortly afterwards, just before getting Cock Point on the beam, the masthead lights of a steamer, which subsequently proved to be the *Storstad*, were sighted between three and four points on the starboard bow, approximately six miles away, the weather at that time being fine and clear.

Navigation from moment of sighting the 'Storstad' until the fog intervened.

After running on the course N. 47 E. magnetic for about eighteen minutes, to a point at which Cock Point buoy was about two and a half miles away on the starboard beam, and about four and a half miles from Father Point, Captain Kendall, considering that he had made the necessary offing from the shore, altered his course to N. 76 E. by compass, or N. 73 E. magnetic, with the object of proceeding down the river. When this change had been carried out, the masthead lights of the *Storstad* were still visible, about a point or a point and a half on the starboard bow, about four miles away, and it was intended to pass the vessel starboard to starboard.

At this moment Captain Kendall, going to the higher bridge, verified the heading of the ship by the standard compass and took the bearing of the lights. He stated that he found that the *Storstad* lights were bearing N 87 E by compass, 11 degrees on his starboard bow, and that her course would therefore take her easily to starboard of his ship.

A little later Captain Kendall returning to the navigation bridge, sighted the green light of the *Storstad* off his starboard bow, and about the same time a fog bank was seen coming off the land, and dimming the lights of the *Storstad*.

NAVIGATION IN FOG.

As soon as the fog began to affect the *Storstad's* lights the engines of the *Empress of Ireland* were stopped, and put full speed astern, and her whistle was blown three short blasts signifying that this had been done.

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About a minute later the fog shut out the lights of the *Storstad* which were then seen bearing about one point on the starboard bow. A prolonged blast of the *Storstad's* whistle was heard about 2 points off the starboard bow of the *Empress of Ireland*, signifying that the *Storstad* had way upon her, and the sound appeared to come from about a mile or a mile and a half away. The *Empress of Ireland* then blew a series of three short blasts. A prolonged blast from the *Storstad* was again heard about four points off the starboard bow of the *Empress of Ireland*.

At about this time the *Empress of Ireland* being at a standstill in the water and heading about N 76 E by compass or N 73 E magnetic, her engines were stopped and two long blasts sounded on the whistle, signifying that she was stopped and had no way upon her. Another prolonged blast was heard from the *Storstad* still on the starboard bow, apparently about six points, and about a mile away. The whistle of the *Empress of Ireland* thereupon again sounded two long blasts. As the position of the sounds heard from the *Storstad* was broadening first from two points to four and then from four to six, Captain Kendall supposed the relative positions of the two ships to be perfectly safe.

THE COLLISION.

Very soon after the *Empress of Ireland* had blown the second set of two long blasts, the mast head lights and the two side lights of the *Storstad* were seen by Captain Kendall about 100 feet away, almost at right angles to the *Empress of Ireland*, and approaching at a fast speed.

Captain Kendall by megaphone hailed the *Storstad* to go full speed astern, and at about the same time the *Storstad* was heard to begin sounding three short blasts, the third of which sounded as the *Storstad* struck the *Empress of Ireland*, as mentioned in the next paragraph.

In the hope of possibly avoiding or minimizing the effect of a collision the engines of the *Empress of Ireland* were ordered full speed ahead, and her helm was ordered hard a-port; but the *Storstad* continuing to come on at a fast speed of about 10 knots struck the *Empress of Ireland* amidships and penetrated through her steel decks to the extent of 15 to 20 feet. The angle of the two ships at the moment of collision was about 7 points.

The engines of the *Empress of Ireland* were immediately stopped, and the *Storstad* was requested, by megaphone, to go full speed ahead. The ships, however, after a few seconds, separated and orders were given to put the engines of the *Empress of Ireland* full speed ahead, with a view to beaching the vessel, which at that moment was listing heavily to starboard. Steam, however, failed, the engines stopped, and the lights went out. The vessel continued to list and, about fifteen minutes after the collision, foundered. She was then heading S E by compass, i.e., substantially to starboard of her course. The locality was about $6\frac{1}{2}$ to $6\frac{3}{4}$ miles east of Father Point, and the time of the collision was about 1.55 a.m. (Montreal time.)

(2) THE STORY OF THE STORSTAD.

Navigation up to the point of sighting the "Empress of Ireland."

The SS. *Storstad* was running on time charter for the Dominion Coal Company, and at 12.30 (Montreal time) of the morning of the collision was abreast of Metis Point, on a voyage from Sydney, Nova Scotia, to Montreal, with a cargo of between 10,000 and 11,000 tons of coal. The watch was being kept by the Chief and Third Officers, there was a quartermaster at the wheel, a lookout man forward, and another A.B. standing by on deck. The Chief Officer, Mr. Toftenes, who has held a Norwegian master's certificate for about seven years, had served as an officer on the vessel for $3\frac{1}{2}$ years, and had been Chief Officer for about five or six weeks before the casualty occurred. The Third Officer, Mr. Saxe, has held a mate's certificate for two years, and had served as mate for 14 months, of which 13 had been spent on the *Storstad*. The vessel was

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under the command of Captain Thos. Andersen, who had given standing orders to the Chief Officer that he was to be called in case of fog, and that in any case he was to be called six miles before the ship reached Father Point to take on the pilot.

Abreast of Metis Point, the estimated distance of the *Storstad* from the shore was about four miles, a course was laid of W. $\frac{1}{4}$ S magnetic, and the ship ran, by the patent log six knots through the water, this distance, being however, subject to a slight allowance in respect of the tide. The course was then changed to W. $\frac{1}{2}$ S magnetic, and the ship ran by the patent log, five knots. Shortly afterwards, about 1.30 a.m. the course was changed to W by S. Just before the change was made, or just after, the masthead lights of the *Empress of Ireland* were seen approximately two points on the port bow of the *Storstad*, about 6 or 7 knots away. They were at that time open to starboard.

NAVIGATION FROM MOMENT OF SIGHTING 'EMPRESS OF IRELAND' TILL FOG INTERVENED.

Six or seven minutes after sighting the masthead lights, the green side light of the *Empress of Ireland* was seen about a point and a half on the *Storstad's* port bow, apparently from 3 to 5 miles away. The *Empress of Ireland* was showing her green light for an interval, and was then seen to make a change in her course. Her masthead lights came into a line, and she showed both the green and the red side lights. The *Empress of Ireland* then continued to swing to starboard, shutting out the green and showing only the red light about a point or a point and a half on the *Storstad's* port bow. This light was shown for from 2 to 4 or 5 minutes, and was only shut out from the observation of the *Storstad* by the fog. When the fog intervened, the *Empress of Ireland* was still one and a half to two points on the port bow, and was about two miles away. The chief officer of the *Storstad* assumed that it was her intention to pass him port to port, and if the relative positions of the vessels at this moment had been maintained they would have passed red to red with ample room.

NAVIGATION IN FOG.

When the *Empress of Ireland* was enveloped in the fog, she was heard to blow a signal of one prolonged blast on her whistle. The *Storstad* answered the signal with one prolonged blast. One or two minutes later the *Storstad* was enveloped in the fog, and the chief officer ordered his engine to 'slow', and after one or two minutes to stop. According to the third mate, there was a second exchange then of prolonged single blasts between the two steamers, but the chief officer himself is not sure whether a second prolonged blast was ever heard from the *Empress of Ireland*. It is agreed, however, that a little later a signal of 3 short blasts was heard from the *Empress of Ireland*, and answered by one long whistle, signifying that the *Storstad* had way upon her. Saxe, the third mate admits further that there was a second series of three short blasts from the *Empress of Ireland*, and states that it was answered by one prolonged blast from the *Storstad*.

A little later the chief officer of the *Storstad* in order to counteract the influence of a current upon the heading of his vessel, ordered the wheel to be ported. This was done but the vessel did not answer, and the third officer then put the wheel hard over to port himself to make sure that it should go all the way. Still the *Storstad* did not swing; and then, finding that his vessel had lost steerage way, the chief officer ordered a signal to be blown of two long blasts, to show that his vessel was not under steerage way. About the same time in order that his vessel might not become entirely unmanageable, he gave a signal on the telegraph 'slow ahead'. It was not till this order had been given that the chief officer called the captain and told him it was getting foggy. The Captain asked if Father Point could be seen, and the chief officer replied that it had just been shut out by the fog. No mention was made of any vessel in the vicinity.

Captain Andersen went on the bridge and found by the compass that his course was W. by S. $\frac{1}{2}$ S. (W. by S. magnetic) and an instant later saw a masthead light about 3 points or perhaps a little more on his port bow, moving at a fast pace across the

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Storstad's course from port to starboard. He immediately ordered the engines full speed astern.

THE COLLISION.

Captain Andersen estimates the distance of the *Empress of Ireland* when first sighted to have been from 600 to 800 feet. Immediately after the masthead light he saw the green light, and a few moments (Captain Andersen says half a minute) after the *Empress of Ireland* was first seen, the vessels came together. The angle made by the starboard side of the two vessels was approximately three points.

Captain Andersen heard a hail through a megaphone from the *Empress of Ireland* telling him to go ahead full speed, and he shouted back 'I am going ahead full speed'. He instantly ordered his engines full speed ahead at the moment of the contact; but he states that, owing to the pace at which the *Empress of Ireland* was moving it was quite impossible for him to keep his stem in the wound, and that his bow was swung to starboard until the two vessels were almost parallel. So much was he swung round that he was afraid the *Empress of Ireland* would hit his port bow, and in order to bring his heading back towards the land he put his helm hard-a-port, ordered his engines ahead and made a complete circle. The *Empress of Ireland* had meantime disappeared in the fog, and he blew a number of whistle signals to ascertain her whereabouts; but got no answer.

It was about 8 or 10 minutes after the collision before he got his first idea of her whereabouts through hearing a chorus of cries from people in the water. He thereupon manoeuvred his vessel as close to the *Empress of Ireland* as he dared, and at the earliest possible moment his four boats were lowered.

The collision took place at about 2.06 a.m. and his heading at the moment of contact was W. by S. magnetic.

PART III.

WHICH SHIP WAS TO BLAME.

The question as to who, if anyone, is to blame for the collision in this case depends largely on which of the two stories put forward by the respective owners of the vessels is to be accepted. The main difference between the two stories is to be found in the description of the way in which the two vessels were approaching each other at the time the *Empress of Ireland* changed her course, after having obtained an offing from Father Point.

Father Point is the place at which the *Empress of Ireland*, the outward bound ship, had dropped her pilot, it is also the place at which the *Storstad*, the inward bound ship, was to pick up her pilot. It is situated on the south side of the river.

The witnesses from the *Storstad* say they were approaching so as to pass red to red; while those from the *Empress of Ireland* say they were approaching so as to pass green to green. The stories are irreconcilable and we have to determine which is the more probable. Times, distances and bearings vary so much even in the evidence from witnesses from the same ship, that it is impossible to rely or to base conclusions upon them. We have, therefore, thought it advisable to found our conclusions almost entirely upon other events spoken to by the witnesses and upon their probable sequence in order to arrive at a solution of the difficulty.

While the Enquiry was proceeding and before the position of the wreck had been ascertained, the Court asked Captain Kendall and Mr. Toftenes, the Chief Officer of the *Storstad*, to mark on a chart the place at which they thought the collision had taken place, and they did it. They were in reasonable agreement; but they were both wrong, possibly to some extent because the chart used was a small scaled chart and it

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was difficult for the witnesses to be precise. But the position of the wreck has now been definitely ascertained. It is lat. N 48° 37' 30", long. 68° 22' 0", to the south of both the points marked, and in our opinion that position fixes with sufficient accuracy the spot where the collision took place.

Upon the *Empress of Ireland* leaving Father Point, her course was N 47 E magnetic. This is a usual course. Her engines had been put at full speed; but we think that she probably never reached that speed at any time before the collision. Her maximum speed was probably at no time more than 14 or 15 knots. Later on, her course was altered under a port helm to N 73 E magnetic. The exact point at which this change was made is uncertain; but it was a customary change for outward bound vessels. It was shortly before this change that the two vessels first sighted each other, and they were then at a distance of six to eight miles apart. This was about 1.30 a.m. (Montreal time) and at about this time the *Storstad* set a course of west by south from which the witnesses from that vessel say she was never subsequently changed. The bearings of the two vessels, one to the other, are matters of uncertainty; but both agree that neither at this time nor at any time before the lights were shut out by the fog which subsequently surrounded them, did their relative positions involve risk of collision. The *Empress of Ireland*, according to her own account, had been a crossing ship; but at such a distance as to involve no risk of collision, and before the fog shut out the *Storstad* lights, she had, according to Captain Kendall, ceased to be a crossing ship, and was safely green to green. According to Mr. Toftenes, the *Empress of Ireland* was a crossing ship until she altered her course to N 73 E magnetic, when, he claims that she ceased to be a crossing ship, and made a course towards the *Storstad* which brought the two ships red to red. This manœuvre is said by Mr. Toftenes to have taken place when the two ships were about 1½ to 2 miles apart, and is described by him in these words 'as far as I could see she was then just keeping on my port side—going clear on my port side', intending to pass port to port, and leaving ample room if both ships kept their courses.

After carefully weighing the evidence we have come to the conclusion that Mr. Toftenes was mistaken if he supposed that there was any intention on the part of the *Empress of Ireland* to pass port to port, or that she, in fact, by her lights manifested the intention of doing so; but it appears to us to be a mistake which would have been of no consequence, if both ships had subsequently kept their courses.

Shortly after the ships came into the position of green to green, as claimed by Captain Kendall,—or red to red,—as claimed by Mr. Toftenes,—the fog shut them out from each other, and it is while they were both enveloped in this fog, that the course of one or the other was changed, and the collision brought about. From the evidence adduced on behalf of both vessels, it is plain that before the fog, and when they last saw each other there was no risk of collision if each kept her course. Therefore the question as to who is to blame, resolves itself into a simple issue, namely which of the two ships changed her course during the fog.

With reference to this issue, it will be convenient to deal with the evidence connected with the *Empress of Ireland* first.

No witness speaks of having seen her make any change of course during the fog, and those who were on board, engaged in her navigation, distinctly deny that any change whatever was made. The question which naturally arises, is, why should she change her course? She had been set on the proper course for her voyage, and she was in a thick fog, and it was her duty to keep her course. What object could be served by changing her course? Mr. Haight, the counsel for the *Storstad*, felt this difficulty, and he set up more than one theory to explain the suggested change. He was at first of opinion that some one on board had starboarded the wheel. He said 'It is my idea that one man, perhaps the second mate ordered his wheel ported, and that another man ordered the wheel starboarded', and when asked why? he says, 'It is exceedingly difficult to say why, unless the position was supposed to be safe, and

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the fog shut us out, and the course was going to take them a little out of their ordinary way, and the big steamship said 'we have speed enough and room enough, and we can cross his bow'. Later on in the case the Captain of the *Storstad* when under examination, was asked by the Court whether he could suggest a reason for the alleged change of course of the *Empress of Ireland* and his answer was 'I cannot say; but I might think when the fog set in the ship was trying to get farther out in clear weather.'

There is, in our opinion, no ground for saying that the course of the *Empress of Ireland* was ever changed in the sense that the wheel was wilfully moved; but as the hearing proceeded another explanation was propounded, namely, that the vessel changed her course, not by reason of any wilful alteration of her wheel; but in consequence of some uncontrollable movement which was accounted for at one time on the hypothesis that the telemotor steering gear was out of order, and at another by the theory that having regard to the fulness of the stern of the *Empress of Ireland* the area of the rudder was insufficient. Evidence was called in support of this explanation. It is not necessary to examine this evidence in detail. The principal witness on the point as to the steering gear was a man named Galway, one of the quartermasters on the *Empress of Ireland*. He had made two voyages on this ship. He stated that on one occasion going up the river, and while he was at the wheel in a narrow passage below Quebec, called the Traverse, the vessel behaved in an extraordinary manner, sheering to port against a port wheel, and only missing by 40 feet, a schooner which was approaching. He further stated that between 8 and 12 o'clock on the evening of the 28th of May, when the *Empress of Ireland* was going down the St. Lawrence, an incident of a different kind occurred, viz: that when he put the wheel over to port 'the gear jammed for the matter of a few minutes' and he had to pull it in order to make it work again. Another similar incident, he said, occurred in his previous voyage when the vessel was in the Mersey. He said that he reported the jamming incident to Williams, the second officer on the bridge (who was drowned) and to the pilot, Bernier. He said that he also mentioned the matter to Quartermaster Murphy who relieved him at midnight. Pilot Bernier and Murphy were called and denied that Galway had made any complaint whatever to them about the steering gear. It further appeared that he had given a statement to some newspaper reporter about the collision, and that he had given a very full account of it to the solicitor for the owners of the *Empress of Ireland*; but that he had not mentioned the steering gear to either of them. Galway gave his evidence badly and made so unsatisfactory a witness that we cannot rely on his testimony. Some evidence was called, however, to confirm Galway. This was the evidence of three men and the pilot from another Norwegian collier, called the *Alden*, a boat under time charter to the Dominion Coal Company, who were the charterers of the *Storstad*. These witnesses spoke to having passed the *Empress of Ireland* on her way down the river, about 9.20 (Montreal time) on the evening of the 28th May, and they said she was swinging and steering badly, changing from red to green several times. The witnesses do not speak of any behavior of the vessel which would suggest 'jamming,' and it is to be observed that the allegation that the vessel sheered from side to side on this occasion, is entirely different from the allegation of Galway that the wheel jammed, an event which so far from making the vessel swing from side to side, would keep her head swinging one way.

On the other hand we have the evidence from the officers on board the *Empress of Ireland*, and of her pilot, all of whom affirmed that the steering gear was in perfect order, and worked well.

A further point that was made by Counsel for the *Storstad* was an admission by Murphy, the quartermaster of the *Empress of Ireland*. He said with reference to the wheel that, 'It might be that it does not catch, and what you have to do is to put your wheel back amidships, and give it the helm, and it will catch on right away.'

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He stated, however, that this had only occurred once during the 4 years and 5 months for which he had been quartermaster of the *Empress of Ireland*. We do not attach any importance to the incident.

On the whole question of the telemotor steering gear we are of opinion that the allegations as to its condition are not well founded. We have consulted our advisers and they concur in this opinion.

Then a suggestion was made that the area of the *Empress of Ireland's* rudder, having regard to the fulness of her stern, was not large enough to enable the ship to steer well. We mention this to show that we have not overlooked it; but we dismiss it from further consideration inasmuch as we are satisfied that here too no real complaint can be made against the steering of the ship.

This disposes of the evidence put forward in support of the suggestion that the *Empress of Ireland* changed her course by reason of circumstances which were beyond the master's control.

It is necessary, however, to refer to a manœuvre of the *Empress of Ireland*, commenced when the lights of the *Storstad* first began to grow dim in the fog, and continued for some uncertain time after. This manœuvre consisted of reversing her engines full speed astern. That this manœuvre was in fact executed we have no doubt. It was evidenced by appropriate whistle signals from the *Empress of Ireland* which were heard by the *Storstad*. When Captain Kendall was asked to give his reason for his order to put his engines full speed astern, he explained to us that knowing the *Storstad* was in the vicinity he wished to take the way off his ship and bring her to a stationary condition. He thought this a prudent course. It was said on behalf of the *Storstad* that the order was probably given because the *Empress of Ireland* had become unmanageable by reason of her defective steering gear. We cannot accept this suggestion; but we do think the stopping evidences uneasiness on the part of Captain Kendall and a consciousness that his ship was possibly in too close proximity to the *Storstad*. We think that he would have been better advised if he had given the *Storstad* a wider berth, and had navigated his ship so as to pass the *Storstad* at a greater distance on his beam than he originally intended. We do not think, however, that his stopping, which was really done for greater caution, can be said to have been an unseamanlike act, nor do we consider his failure to give the wider berth as a contributory cause of the disaster.

It is now necessary to consider the position and conduct of the *Storstad* with the view of ascertaining whether it was she who changed her course.

It is admitted that those on board the *Storstad* did that which in ordinary circumstances would change her course, and that they did it in the fog shortly before the accident. They ported, and they hard-a-ported the *Storstad's* helm. Assuming that she answered to this hard-a-port helm the effect would be to bring her head round to starboard in the direction of the *Empress of Ireland*, and if she continued under this helm the effect would be to bring her into collision with the *Empress of Ireland*. It was said, however, that the porting of the helm although done while the ship was in the fog, was an act of prudent navigation, because it was done to counteract the effect of a current which exists in the locality; and it was further said that by reason of this current and by reason of the fact that the *Storstad* had little or no way on her, the porting had no effect on her course, which remained W by S as it had been for half an hour or more before. We are unable to accept this view. Mr. Haight, in his statement made to us before any evidence was called, informed us that Mr. Toftenes, who was in charge of the *Storstad*, had explained to him that the object of porting the helm was to 'make sure of ample room,' and this is no doubt true. No current was then mentioned. Then the character of the damage done to the *Storstad* bow (which we have seen) satisfies us that considerable way must have been on her at the time she dealt the blow on the *Empress of Ireland's* starboard side. Captain Kendall said that

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at the time of the collision his ship was lying in the water, stopped dead, and that therefore no movement of his ship contributed to the force of the impact. This is perhaps doubtful. We think that although his engines had been reversed for some minutes, Captain Kendall may be mistaken in supposing that way had been entirely taken off his ship, and it is possible, therefore, that to some extent her movement may have contributed to the force of the blow. But the fact remains that the *Storstad* ported her helm and changed her course, and so brought about the collision.

It may be asked what induced the men in charge of the *Storstad*—Mr. Toftenes and Mr. Saxe—to port and to hard-a-port the helm? The explanation is fairly plain. They believed (wrongly as it turned out) that the *Empress of Ireland* was passing their ship red to red. They wanted, as Mr. Toftenes said to Mr. Haight when he gave his first version of the story ‘to make sure of ample room,’ and they ported in order to secure it. Unfortunately the *Empress of Ireland* was passing green to green and so far from the porting securing more ample room, it brought the vessels into closer proximity, and then into collision.

We are further of opinion that Mr. Toftenes, the officer in charge of the *Storstad*, was negligent in omitting to call the captain when the fog was coming on. At this time the captain was asleep in his room; but he had left orders that in the event of fog coming on he should be called to the deck, and there was a standing order on his ship to this effect. It is of the last importance that when a ship encounters a fog her navigation should be in the control of a man of experience and of judgment. In this case no step was taken to bring the captain to the deck until too late. The captain is the man who ought to have been there. Mr. Toftenes says that he thought there was no danger and therefore that it did not matter. He was wrong; there was danger, and any way it was his duty to obey the order which he had received to call the captain when the fog came on.

We regret to have to impute blame to any one in connection with this lamentable disaster and we should not do so if we felt that any reasonable alternative was left to us. We can, however, come to no other conclusion than that Mr. Toftenes was wrong and negligent in altering his course in the fog, as he undoubtedly did, and that he was wrong and negligent in keeping the navigation of the vessel in his own hands and in failing to call the captain when he saw the fog coming on.

It is not to be supposed that this disaster was in any way attributable to any special characteristics of the St. Lawrence Waterway. It was a disaster which might have occurred in the Thames, in the Clyde, in the Mersey or elsewhere in similar circumstances.

Such is the conclusion at which we have arrived on the question as to who was to blame for the disaster. But a question of much greater public interest and importance remains to be considered, viz.: why the ship sank so quickly, and what steps, if any, can be taken to prevent the terrible consequences which so often follow from such disasters.

PART IV.

CAUSE OF RAPID SINKING OF THE SHIP.

WERE THE WATERTIGHT DOORS AND PORTS IN THE ‘EMPRESS OF IRELAND’ OPEN OR SHUT AT THE TIME OF THE COLLISION.

WATERTIGHT DOORS.

Definite evidence was given to show that the vertical sliding watertight door providing communication between engine room and after boiler room at the stokehole level was effectively closed after the collision took place; but no information was available as to whether the reserve bunker doors higher up on the same bulkhead, or that on

the forward bulkhead of the fore boiler room, between the lower and main decks, connecting the reserve bunker with the steerage passenger or cargo space, were open or shut, although it is presumed they were shut. An unsuccessful attempt was made to close the vertical sliding door between the two boiler rooms at the stokehole level, but no evidence was available with reference to the two doors on the same bulkhead between the lower and main decks.

Immediately above the main deck, as set out in the detailed statement of the vessel's construction, at least one horizontal sliding watertight door was fitted in each of the bulkheads numbered 3 to 9, and no evidence was forthcoming to show that any of these doors were closed at the moment of the collision. It was stated that some of the doors on the port side were closed after the collision, as the gear for actuating these were adjacent to the steward's quarters and readily accessible; but attempts made to close the starboard door of the 3rd class dining saloon, and the door on the same side of the ship at the fore end of the 2nd class accommodation, were ineffectual.

The door last-named was vitally important, since it was in a bulkhead which completed, above the main deck, the watertight bulkhead at the after end of the boiler compartments. It may be mentioned that the operation of closing the doors on the port side would be facilitated by any list to starboard, the arrangement being such that the weight of the door under the circumstances mentioned tended to close it; but the contrary was true of those on the starboard side. One witness mentioned that he either heard or saw some gear for closing watertight doors working, and from his position at the time, it is possible that the door at the after end of the 2nd class lavatory accommodation on the starboard side was closed.

Practically all the doors between main and upper decks must necessarily have been open under ordinary circumstances for convenience of communication between cabins and dining saloons, etc., and therefore in view of the fact that the only two known attempts to close doors on the starboard side were unsuccessful, it seems practically certain that other attempts on that side, if made, had a similar result, and that nearly all the watertight doors on the starboard side between main and upper decks remained open after the collision.

PORT HOLES OR SIDELIGHTS.

It was stated in evidence that all the lower ports would be closed at the time of the collision, whilst others higher up would be open. Other evidence showed that some ports in cabins between the main and upper decks were closed some hours before the collision, and that others in the alleyways between the same decks were open at that time. It is certain that some ports at this level were open after the collision, for one passenger, in the 3rd class accommodation forward, deposed to being awakened by water falling on his bed from the open porthole, and others testified to seeing water pour through port holes in alleyways and elsewhere near the after end of the ship.

Evidence was also forthcoming to show that water entered through open ports inside between the upper and shelter decks.

NATURE AND EXTENT OF THE DAMAGE RESULTING FROM THE COLLISION, AND POSITION AT WHICH 'EMPRESS OF IRELAND' WAS STRUCK.

So far as the *Empress of Ireland* is concerned, no direct evidence as to the extent of the damage was available since no survivor from the *Empress of Ireland* nor anyone from the *Storstad* has testified to having seen the torn side of this vessel. Divers report that the sunken liner is lying on her starboard side at a considerable inclination from the horizontal, and with her starboard bilge buried in mud. No examination of the damage has been possible up to the present time, and the engineer in charge of the diving operations considers such examination a very hazardous and perhaps impossible undertaking. Information on this point can therefore only be gathered from an

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examination of the damaged bow of the *Storstad*. This vessel was more extensively damaged on the starboard than on the port bow, as first contact with the *Empress of Ireland* was made on that bow; but on the port side also the injuries were severe.

The shelter deck of the *Storstad* apparently entered just below the shelter deck of the *Empress of Ireland*, the stem head of the former above the shelter deck being broken off. The vertical depth of the hole made in the side of the *Empress of Ireland* must have been approximately 46 feet, about 25 feet of this being below water at the time of the collision. It is not possible to determine the lateral dimensions of the aperture, as there may have been some longitudinal ripping action, which would produce a wider hole than one caused by a single direct blow. But, excluding such action and estimating the size of the hole from the position of the limiting marks of injury on *Storstad*, the conclusion has been reached that the area below water of the hole made in the side of the *Empress of Ireland* was, immediately after the collision, no less than 350 square feet.

The position at which the *Storstad* came into contact with the *Empress of Ireland* can be determined with some precision. In the first place a cabin number plate (No. 328) from the last named vessel, was found after the collision on the shelter deck of the *Storstad*, near the stem. The cabin bearing this number was an outer one situated between the upper and shelter decks of the *Empress of Ireland* slightly abaft amidships, the door being 7 feet in from the side. Further, the engineer on watch in the forward boiler room stated that 20 seconds after the collision 'water rushed through the starboard No. 2 bunker', entering the stokehole through the full area of the bunker doorway; whilst the engineer on duty in the after boiler room noticed water pouring in in large volume out of the forward bunker door on the starboard side almost immediately after the shock of the impact was felt.

From these facts it is clear that the *Empress of Ireland* was damaged in the immediate vicinity of the water tight bulkhead fitted between the two boiler rooms, whilst the stem of the *Storstad* must have penetrated into the side of the *Empress of Ireland* sufficiently far to reach the door of the cabin before mentioned. This door was 16 feet abaft the bulkhead, the watertightness of which was destroyed.

EFFECT OF THE COLLISION ON THE STABILITY OF THE 'EMPRESS OF IRELAND'.

Just before the collision, the mean draft of the vessel was 27 feet; she was carrying 1,160 tons of cargo, 2,300 tons of coal, and all the double bottom tanks were filled with either fresh or salt water. Her metacentric height under these circumstances was just over 40 inches, and with all port holes closed her stability at large angles of keel was ample.

The immediate effect of the damage referred to above was to destroy the watertightness of the bulkhead dividing the two boiler rooms, and to place these compartments (with a combined length of 175 feet) in communication with the sea. From an examination of the damage done to the bow of the *Storstad* it has been estimated that the area of the hole made in the side of *Empress of Ireland* was sufficient to allow an initial inflow of water into the vessel of 265 tons per second, supposing such inflow unobstructed. Coal and other obstructions would lessen this rate, but it is certain that in a very short time both boiler rooms would be entirely flooded up to the water level outside, as from the evidence is known to have been the case. Flooding these compartments involved a mean sinkage of practically 9 feet, and assuming, in the first place, that the water as it rose in these compartments was symmetrically distributed with reference to the middle line of the ship, this sinkage would take the main deck 4 feet below the water at amidships, and this deck would be below water throughout its length except for a comparatively short portion forward. Under these conditions of damage the ship would still have had a metacentric height of just over two feet, and would have continued to float upright had the water tight doors in bulkheads above the main

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deck bounding the damaged length been closed. Under the actual conditions prevailing at the time of the collision, however, with the side of the vessel, where struck open to the sea above the main deck, and with bulkhead doors on the starboard side of that deck open, water could find its way freely over that deck, thus wholly destroying the vessel's stability and causing her to capsize and founder.

For convenience of description it has been assumed in the foregoing that the entering water was distributed symmetrically with reference to the middle line of the ship, but initially this was certainly not the case. The *Storstad* penetrated the starboard side of the *Empress of Ireland* at the cross coal bunker fitted between the two boiler rooms, this cross bunker being subdivided athwartships by the water-tight bulkhead separating the boiler rooms. This bunker was also divided at the middle line of ship, below the lower deck level, by longitudinal water-tight or dust-tight communication and steam pipe passages, connected by a non-water-tight partition. The part of this cross block which was in the forward boiler room was connected on the starboard side to a longitudinal bunker running to a cross-block at the forward end of that room, this latter being divided below the lower deck and at the middle line of ship, by a non-water-tight longitudinal partition. Very similar arrangements existed abreast the after boiler room, details of these being given in the portion of this report which deals with the construction of the ship. The bunker bulkheads of this vessel, in accordance with usual practise, were not water-tight. It may be added that the arrangement of coal was practically symmetrical with reference to the middle line of ship.

There is no evidence that the *Storstad* destroyed any portion of the bunker bulkheads, so that very shortly after the impact a large quantity of water must have entered the bunkers on the starboard side for the whole length of the boiler rooms, which water was able to escape only through bunker doors into the boiler rooms and relatively slowly also across the middle line partitions in coal bunkers to the port side of the vessel. Under these circumstances the ship would at once commence to list to starboard, the precise angle of inclination at any time being dependent upon the actual rate of inflow of water and the rate of its distribution across the ship. In the absence of this information a close estimate of the list is not possible; but making reasonable approximations an inclination of some 15 to 20 degrees appears probable under these circumstances. From such a list the vessel might have recovered as the water got to the port side, if all port holes, and all watertight doors in bulkheads bounding the boiler compartments up to upper deck, had been closed; but with doors and sidelights open to the extent known to have obtained after the collision, water was free to enter other compartments and the final capsizing and foundering became inevitable.

Thus, summarizing the foregoing, it will be seen that whilst the entry of water on the starboard side naturally induced a tendency to heel to that side, the heeling effect was increased by the fact that the bunker bulkheads retarded the free flow of water across the ship. Very shortly after the collision the vessel must, for this reason, have listed to a considerable angle, and this, combined with the bodily sinkage of the vessel, would speedily immerse the side ports known to be open between main and upper decks. As the sinkage, due to the entry of water through the injured side and through the port holes, continued, water would, under the actual circumstances existing at the time of the collision, obtain free access to the main deck, with the results already indicated.

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PART V.

LIFE SAVING APPLIANCES.

MEASURES TAKEN TO SAVE LIFE.

According to the Board of Trade Surveyor's Certificate, the *Empress of Ireland* was provided with the following boats:—

No. and Description.	Materials.	Contents in Cubic Feet.	No. of Persons to Accommodate.
16 Lifeboats.....	Steel	7,640	764
20 Englehardt boats	Wood and canvas	9,200	920
4 Berthon boats	"	1,747	176
Total .....	.....	18,587	1,860

It was stated in evidence that there were also two other Berthon boats on board, having a combined carrying capacity of 105 persons.

All the lifeboats, eight on each side of the ship, were under davits, fourteen of them being on the boat deck and two on the lower promenade deck at the after end of the vessel. They were distinguished by odd numbers on the starboard side and even numbers on the port side.

Under each steel lifeboat there was placed an Englehardt boat, and four other Englehardt boats were stowed on the after lower promenade deck.

The Berthon boats were on the boat deck, two on each side of the ship abreast of the Marconi wireless house, and one on each side of the engine room skylight.

All the above mentioned boats appear to have been in good order, and were provided and fitted with their necessary gear and equipment; but none of them were furnished with patent lowering or detaching gear.

For other life saving appliances, she was supplied with 24 lifebuoys, which were disposed about the bridge and rails, floating lights being attached to half that number, and 2,212 lifebelts, of which 150 were for children. The lifebuoys and lifebelts were in good order. In each passenger cabin throughout the ship, there were sufficient lifebelts for the number of persons accommodated therein, and the lifebelts for the members of the crew were available in their respective quarters.

On the 15th of May, 1914, the vessel, when about to take her departure for Quebec, was cleared at Liverpool by Mr. Thomas E. Thompson, emigration officer, and in a report made by him to the Board of Trade, dated the 4th of June, 1914, he states that on examining the crew, who were mustered on the saloon deck, he found that each man had a badge pinned to his coat showing the number of the boat to which he belonged, and that the sailors were so divided as to provide at least two for each boat under davits.

As soon as the muster was over, the bugle was sounded, and all hands repaired to the boat deck, and the order "Out all boats" was given. The whole of the boats under davits, sixteen in number, were at once swung out. Two sailors were in each and they shipped the thole pins, passed the ends of the painters out, and shipped the rudders, the rest of the boat's crew setting up the guys and clearing away the falls. About four minutes elapsed between the time when the order was given and the time when the boats were ready for lowering.

Two of the Englehardt collapsible boats were also opened up, the canvas sides rigged, and all her gear shipped.

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The equipment of all the boats was found to be in order and to comply with the regulations.

The fire extinguishing appliances were examined in various parts of the ship, attention was paid to ladderways, exits, etc., which were found in order, and it was ascertained that emergency direction oil lamps were placed where necessary.

After swinging in the boats, the crew were summoned to fire stations by bell and bugle, hoses were stretched along and the water turned on, and a number of stewards were also told off to control the passengers in case of need. Two fire annihilators picked out at random from the steerage, were turned on and found in order.

The Emigration Officer also saw the water-tight doors in the steerages, in the first and second class passenger accommodation, and in the engine and boiler rooms closed, and they worked to his satisfaction.

With regard to the boat and fire drills, each member of the crew appeared to know his duties, and both drills were carried out quickly and without confusion.

On the 23rd of May, 1914, the day after the *Empress of Ireland* arrived at Quebec, she was inspected by Captain Hugh G. Staunton, Superintendent of Life Saving Appliances and Marine Superintendent to the Canadian Pacific Railway Company, who found the life saving appliances in good condition.

Upon that occasion the crew were exercised at boat drill, and three boats were put into the water (a large number was not lowered on account of the coal lighters alongside the ship), and two of the collapsible boats were opened out and rigged.

In addition to the ordinary life saving appliances enumerated above, the vessel had a standard one and a half kilowatt installation of Marconi wireless telegraphic apparatus, as also an emergency set of the same, the instrument room and the operators' sleeping accommodation being situated on the boat deck, just forward of the engine room skylight.

There were two Marconi operators employed, namely, Mr. Ronald Ferguson, the senior operator, and Mr. Edward Bamford, his assistant, one of whom was constantly on duty in the instrument room when the ship was under weigh.

LIFE SAVING BY 'EMPRESS OF IRELAND'S' BOATS.

When Captain Kendall saw that the collision was inevitable, he ordered the first officer (Mr. Edward Jones) who was with him on the bridge, to call all hands and get the boats ready. The siren was also sounded as a signal to the crew to close watertight doors and to prepare to abandon the ship. The collision having occurred, the order was then given to get all the boats out as soon as possible.

The crew appear to have responded readily to the call made upon them and to have worked well, but soon, owing to the rapid and great influx of water, the ship listed so rapidly to starboard that it was absolutely impossible to put out the port boats.

In the meantime, the stewards, certain of whom were on watch during the night, aroused the passengers, lighted the emergency lamps provided for the purpose, and assisted individuals to put on their lifebelts.

Although, very naturally, there was some confusion, there does not appear to have been any lack of discipline, and one of the passengers saved (Mr. Smart) testified to the kindness and consideration shown for one another by those so suddenly confronted with the gravest peril.

Nos. 1, 3, 5, 9, 13 and 15, starboard lifeboats were got into the water. No. 1 swinging heavily out, and throwing several persons overboard, and No. 15 capsizing. While endeavouring to lower No. 7, the ship fell over on her starboard beam ends and foundered. At the time she fell over, the port boats and other movables crashed down on to the starboard side of the ship.

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Unfortunately all the officers, with the exception of the master and first officer, were drowned, and so it is not altogether easy to follow the movements of the different boats.

At the moment when the *Empress of Ireland* fell over, her funnels striking the water, Captain Kendall was on the flying bridge, and thence fell overboard. He was rescued by lifeboat No. 3, took charge of her, and commenced to pick up people who were hanging on to the wreckage. When the boat contained as many persons as it would hold—which was about 55 or 60—others were distributed around the outside of the boat, hanging on to the life lines, and by this means many lives were saved. This boat proceeded to the *Storstad*, put those in or clinging to her on board, and then, still in charge of Captain Kendall and manned by the members of the *Empress of Ireland's* crew, returned to the wreckage in order to search for other survivors, but only succeeded in finding dead bodies. Noticing another of the *Empress of Ireland's* boats about two miles off, Captain Kendall pulled towards her, and found that she was smashed, half full of water, and unoccupied. No. 3 then went back to the *Storstad*.

The first officer (Mr. Jones) having seen Nos. 1, 3 and 5 lifeboats put out, went to No. 7, but before it could be launched, the vessel capsized and he was thrown into the water. However, he was picked up by No. 9, which, when it had been filled with other survivors, went to the *Storstad*, discharged them, and then returned to search for more. Upon this latter occasion she saved eight ladies and three or four men, who were put on board the Canadian Government steamer *Eureka*, of which more hereafter. Another trip was made but only corpses were found.

A quartermaster named Murphy, who was thrown into the water when the ship capsized, managed to get hold of the bottom of No. 15 lifeboat, which was floating bottom up, and then succeeded in scrambling into No. 13. This boat, when full of survivors, went alongside the *Storstad*, put them on board, and then returned and picked up about thirty more people, who were taken to the *Eureka*. After that No. 13 was cast adrift, as no other living persons were to be found.

One of the boats, number unknown, appears to have been struck by some of the superstructure giving way as the ship capsized, the people in her being either killed or drowned.

One of the *Empress of Ireland's* collapsible boats also got away, and went alongside the *Storstad* with survivors. She was then manned by men from the *Storstad*, and was the means of saving more lives.

Although there is no direct evidence, it is very probable that some lives were lost owing to injuries sustained at the moment of the collision, and also when the port boats and other movables crashed across the deck, sweeping everything before them.

LIFE SAVING BY THE STORSTAD.

After the collision, the *Empress of Ireland* and the *Storstad*, having separated, lost one another in the fog. The master of the latter sent the mate forward to ascertain what damage had been sustained by the vessel, sounded the whistle, and called all hands on deck. The *Storstad* was turned under port helm until she was a little east of Father Point, and heading inshore. However, cries being heard, the engines were put slow ahead and the helm starboarded, and the vessel proceeded until the outline of the *Empress of Ireland*, which was on the point of foundering, was seen. The *Storstad* was then manoeuvred into a position near the people in the water, and four boats were lowered. These boats made many trips, bringing survivors back each time, and the work was continued as long as any living person could be discovered in the water.

One of the collapsible boats of the *Empress of Ireland*, manned by members of the crew of the *Storstad*, was also the means of saving lives, as detailed in lifesaving by boats of the former vessel.

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No complaint can be made of the conduct of those on board the *Storstad*. They appear to have done all in their power to save life.

PROCEEDINGS OF MARCONI OPERATORS AFLOAT.

Just prior to the collision, Mr. Ronald Ferguson, the senior Marconi operator, had turned in, leaving his assistant, Mr. Edward Bamford, on duty, but had not gone asleep. The collision having taken place, Mr. Ferguson went into the instrument room, and, anticipating that he would be required to send out a message for assistance, he at once called up all available stations, telling them to stand by for a distress signal, and thus ensured a clear way to obtain any possible assistance.

In reply to this call, the wireless station at Father Point replied 'O.K., here we are.'

Mr. Ferguson told his assistant to run to the bridge and ask for orders. However, the chief officer then passed by, and instructed Mr. Ferguson to send out the 'S. O. S.' signal, as the vessel was sinking, and the following is in Mr. Ferguson's own words:

'So I went and took up the 'phones and called up 'S.O.S.', saying that we had struck something and were sinking fast, and that the ship was listing terribly. I sent it out very slowly, because I knew that at that time there would be no senior operators on watch, so I sent it very slowly, to give the junior operators a chance to understand. Father Point replied, saying 'O.K.', and asking where we were. I thought a minute, for no one had told me the position, but I remembered them putting down the pilot, and I said we were about twenty miles past Rimouski. He then said: 'Twenty miles,' wanting me to confirm it, to show that he had it right, and while I was saying 'Yes' the power shut right off, and my handle went back, and I was left without any power, and the lights went out too. By this time I was standing with one foot on the bulkhead and one on the floor, she had listed so terribly, and of course all my papers and books were strewn all over. Then I went out on the deck and was holding on to the rail, and was shouting through my hands as a megaphone that there were plenty of ships coming. I saw Mr. Jones, the first officer, and the second officer, and others, attending to the boats, and the chief officer came alongside and said: 'What's that?' and I told him. I repeated to him that we should have assistance in less than an hour, and he said to clear to my boat. Then I went back into the cabin to work my emergency to see if I could get another call in. I omitted to mention that Father Point said he was sending the *Eureka* in reply to my call, also the *Lady Evelyn*. I got that after my power was shut off. I went to get the emergency gear in working order—and the emergency gear could not be used, the accumulators burst, and the ship was lying on her side practically by this time, and I went outside and got hold of a deck chair that was lying there and intended to jump for it, for I had no belt, and then she gave a sudden lurch and jerked me into the water. But previous to this, I had heard a terrible clattering of all the boats from the port side crashing across the deck to the starboard side.' Both the Marconi operators were among those saved.

PROCEEDINGS OF MARCONI OPERATORS ASHORE.

Mr. Crawford S. Leslie, the operator on duty at the Marconi station at Father Point, states that he received the call from the *Empress of Ireland* at 1.45 a.m. of the 29th of May, and immediately reported same to Mr. William J. Whiteside, the officer in charge who was in bed. At 1.50 a.m. the *Empress of Ireland* said 'listing terribly: by' meaning 'stand by'. Mr. Whiteside, who had at once gone to the operating room, took over charge of the instruments, and heard the last of the *Empress of Ireland* S.O.S. calls. He replied that he would send the Government steamers to her assistance, and asked for the position of the vessel. The answer came that she was twenty miles from Rimouski, and the signals from her then trailed off and no further intelligence could be obtained.

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Mr. Whiteside took it for granted that the operator on board would still be standing by his receiver, and informed him that the Government Steamers *Lady Evelyn* and *Eureka* were being sent to render assistance. He then made the call C.Q. which is a general signal meaning that all ships hearing it must answer; but got no response.

Mr. Whiteside communicated with the Masters of the *Lady Evelyn*, which was lying at Rimouski Wharf, and the *Eureka*, which was landing a pilot at Father Point, and those two vessels, with the least possible delay, set off for the scene of the disaster.

ASSISTANCE RENDERED BY CANADIAN GOVERNMENT STEAMERS 'EUREKA' AND 'LADY EVELYN.'

The Canadian Government steamer *Eureka* took the pilot from the *Empress of Ireland* about 1.30 a.m. according to Captain Bélanger, or at 1.20 a.m. according to Captain Kendall, the vessel then being a little to the westward of Father Point Wharf, distant about a mile and a half. After that she waited for the outward bound steam collier *Wabana* took her pilot off also, and proceeded to Father Point. Just as she was touching the wharf—about 2.25 a.m.—her Master (Captain J. B. Belanger was informed by telephone by Mr. Whiteside and Mr. John McWilliams, Manager of the Great North Western Telegraph Company's station at Father Point, that the *Empress of Ireland* had met with an accident and was sinking. Without any delay, the *Eureka* set out for the scene of the disaster, which she reached in from forty to forty-five minutes. The *Empress of Ireland* had then gone down. Some lives were saved and survivors were received on board from boats, in all to the number of about 150, and everything possible was done to alleviate their sufferings until they were landed at Rimouski wharf. The *Eureka* made two other trips, but no living persons could then be found.

The Master of the Canadian Government Steamer *Lady Evelyn* (Captain Pouliot) lying at Rimouski Wharf, was informed by the Wireless operators at Father Point that the *Empress of Ireland* was sinking and asking for assistance. He immediately called all hands, got up steam as quickly as possible, and having learned from the Captain of the *Eureka* the approximate position of the ship, left Rimouski at 2.45 a.m. and arrived in the vicinity of the casualty about 3.45 a.m. The *Lady Evelyn* took on board some of the survivors from boats, and also from the *Storstad*, and conveyed them to Rimouski.

PART VI.

QUESTIONS.

At the beginning of the Inquiry twenty questions were formulated by the Canadian government upon special points arising out of the casualty. Many of these questions have already been answered in the foregoing parts of our report; but it will be convenient here to set out the questions in full, and to answer those which have not been already dealt with.

Question 1.—When the SS. *Empress of Ireland* left Quebec on or about the 28th May last

(a) What was the total number of persons employed in any capacity on board her, and what were their respective ratings?

(b) What was the total number of her passengers distinguishing sexes and classes, and discriminating between adults and children?

Answer.—(a) The total number of persons employed in any capacity on board the SS. *Empress of Ireland* at the time she left Quebec on the 28th May last was 420.

The respective ratings of these persons was as follows:

Deck department.	59
Engine department.	130
Victualling department.	222
	411
Supernumerary engineers, Ex-R.M.S., <i>Empress of Asia</i>	4
Musicians.	5
	420

(b) The total number of passengers was 1,057, made up as follows:—

	Male.	Female.	Total.
1st Class.	49	38	87
2nd Class.	125	128	253
3rd Class.	500	217	717

Included in the above figures are:—

Four female children in first-class, 11 male and 21 female children in second class, and 54 male and 48 female children in third class; total children, 138.

Question 2.—On leaving Quebec on or about the 28th day of May last, did the SS. *Empress of Ireland* comply with the requirements of the M. S. Acts, 1894 to 1906, and the rules and regulations made thereunder, with regard to the safety and otherwise of 'passenger steamers' and 'emigrant ships'?

Answer.—Yes.

Question 3.—In the actual design and construction of the SS. *Empress of Ireland*, what special provisions, if any, were made for the safety of the vessel, and the lives of those on board, in the event of collisions and other casualties?

Answer.—This has been dealt with in Part I of our report.

Question 4.—Was the SS. *Empress of Ireland* sufficiently and efficiently officered and manned?

Answer.—Yes.

It was suggested to us, however, by counsel on behalf of the National Sailors' and Firemen's Union of Great Britain and Ireland, that more A.B.'s should have been carried on board the *Empress of Ireland*. He raised this point not with special reference to this casualty and this vessel, but as a means of placing before the court the general opinion of his clients, that for the purpose of launching and manning lifeboats all passenger ships should be required by law to carry A.B.'s to the number of two per boat. We do not, however, consider that such a requirement would have been of any avail in saving life on this occasion, and we, therefore, abstain from making any comment on the suggestion.

Question 5.—Were the arrangements for manning and launching the boats on board the S.S. *Empress of Ireland* in case of emergency, proper and sufficient? Had a boat drill and a bulkhead door drill been held on board, and if so, when? What was the carrying capacity of the respective boats? What number and description of life-buoys and life jackets were on board this vessel? Where were they carried? Were they in good condition, and adequate for the purpose intended?

Answer.—The answer to the first question is in the affirmative. Boat and bulkhead door drills were carried out at Quebec on the 23rd May last before the ship sailed. The rest of the information asked for is given in Part V of this report.

Question 6.—What installations for receiving and transmitting messages by wireless telegraphy were on board the S.S. *Empress of Ireland*? How many operators were employed in working such installations? Were the installations in good and effective working order? Were the number of operators sufficient to enable messages to be received and transmitted continuously by day and night?

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Answer.—The *Empress of Ireland* was fitted with a Marconi Standard one and a half kilowatt installation of wireless telegraphy with a complete emergency gear.

Two operators were on board, and the installations were in good and effective working order, and the number of operators were sufficient to enable messages to be received and transmitted continuously by day and night.

Question 7.—At or prior to the sailing of the S.S. *Empress of Ireland* from Quebec on the 28th day of May last, what, if any, instructions as to navigation, were given to the master, or known by him to apply to her voyage? Were such instructions, if any, safe, proper and adequate, having regard to the time of the year and dangers likely to be encountered during the voyage.

Answer.—General and specific rules as to navigation were issued by the Canadian Pacific Railway Company to their masters and officers in book form and were well known to the masters and officers of the *Empress of Ireland*. The instructions contained in such rules were safe and proper, having regard to the time of the year and dangers likely to be encountered during the voyage.

Question 8.—When leaving Quebec on or about the 28th of May last, was the vessel in charge of a Quebec pilot? If so, when and where was the pilot discharged, and what was the condition of the weather at that time?

Answer.—These questions, with the exception of that as to the time at which the pilot was discharged, have been dealt with in the body of our report. As to the time at which the pilot was discharged, the master of the *Empress of Ireland* states that it was at 1.20 a.m. on the 29th May, while the master of the pilot boat states that it was at 1.30 a.m.

Question 9.—After the pilot left the SS. *Empress of Ireland* was a double watch kept on deck?

Answer.—Yes.

Question 10.—At what time on the morning of the 29th May last?

(a) did the S.S. *Empress of Ireland* first sight the light or lights of the Norwegian steamer *Storstad* and in what position was the S.S. *Empress of Ireland* then?

(b) did the Norwegian steamer *Storstad* first sight the light or lights of the S.S. *Empress of Ireland* and in what position was the *Storstad* then?

At this time were the vessels crossing so as to involve risk of collision within the meaning of Article 19 of the regulations for preventing collisions at sea? If so, did the S.S. *Empress of Ireland* comply with the provisions of the said Article and of Articles 22 and 23, and did the S.S. *Storstad* comply with Article 21 of the said regulations?

Answer.—The two vessels sighted one another shortly after the *Empress of Ireland* left Father Point and before she changed her course to N 73 E Magnetic.

The vessels were not at this time crossing so as to involve risk of a collision within the meaning of Article 19 of the Regulations for Preventing Collisions at Sea.

Question 11.—After the vessels had sighted each other's lights did the atmosphere between them become foggy or misty, so that lights could no longer be seen? If so, did both vessels comply with Articles 15 and 16, and did they respectively indicate on their steam whistles or sirens, the course or courses they were taking by the signals set out?

Answer.—The answer to the first question is in the affirmative.

We are of the opinion that both vessels complied with Article 15 of the Regulations for the Prevention of Collisions at Sea. We are further of opinion that the *Empress of Ireland* complied with Article 16; but on the evidence before us we are not prepared to express an opinion as to whether the provisions of this Article were complied with by the *Storstad*.

Question 12.—Were the circumstances of this case such as to bring into operation the provisions of Articles 27 or 29 of the said Regulations? If so, did the Masters of both vessels take prompt and proper means or measures to comply with the requirements of the said Articles?

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Answer.—The circumstances of the collision and the causes which brought it about are described in our report.

Question 13.—In what position in the River St. Lawrence and at what time on the morning of the 29th of May last did the collision occur between the S.S. *Empress of Ireland* and the S.S. *Storstad*? At what time did the S.S. *Empress of Ireland* founder, and how was it that she sank so quickly after the collision had occurred?

Answer.—These questions were dealt with in our report.

Question 14.—Was proper discipline maintained on board the S.S. *Empress of Ireland* after the casualty occurred?

Answer.—Yes.

Question 15.—What messages for assistance were sent by the S.S. *Empress of Ireland* after the casualty, and at what times respectively? Were the messages sent out received at the wireless station at Father Point? Were prompt measures taken by those on shore to render assistance? What assistance was rendered by the Government steamers *Eureka* and *Lady Evelyn*?

Answer.—A wireless message 'S.O.S.' was sent off by the Senior Marconi operator shortly after the collision had occurred, the message was received at the wireless station at Father Point, and no time was lost in sending the Government steamers *Lady Evelyn* and *Eureka* to the rescue. The vessels proceeded at once to the scene of the disaster and picked up many of the survivors, landing them at Rimouski.

Question 16.—Was the apparatus for lowering the boats on the S.S. *Empress of Ireland* at the time of the casualty in good working order? How many boats were got away before the vessel sank?

Did the boats, whether those under davits or otherwise, prove to be serviceable for the purpose of saving life? If not, why not? What steps were taken immediately on the happening of the casualty? How long after the casualty was its seriousness realized by those in charge of the vessel? What steps were then taken? Were all watertight doors in bulkheads immediately closed? What endeavours were made to save the lives of those on board, and to prevent the vessel from sinking?

Answer.—At the time of the casualty the apparatus for lowering the boats on board the *Empress of Ireland* was in good working order.

The second part of this question has already been answered in the body of the report.

Question 17.—Were any of the persons on board the S.S. *Empress of Ireland* who lost their lives, killed or injured by the collision?

What number of passengers and crew left the ship in the boats which got away?

How many persons were ultimately rescued, and by what means? What was the number of passengers, distinguishing between men and women, and adults and children, of the first, second and third classes respectively, who were saved? What was the number of the crew, discriminating their ratings and sex, who were saved?

Answer.—We have not before us sufficient evidence to enable us to answer the first question.

Of the total number of 1,417 persons on board the *Empress of Ireland* 465 were saved (1) in the vessel's own boats, (2) boats belonging to the S.S. *Storstad* and (3) the Government steamers *Eureka* and *Lady Evelyn*.

The number of passengers saved, distinguishing between men and women, and adults and children were as follows:—

FIRST CLASS.		Saved.
	Total number.	
Adult, males.....	49	24
" females.....	34	11
Children, males.....		
" females.....	4	1
Total.....	87	36 were saved.

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SECOND CLASS.

	Total number.		Saved.
Adult, males.....	114		33
" females	107		13
Children, males.....	11		
" females.....	21		2
Total.....	253	of which number	48 were saved.

THIRD CLASS.

	Total number.		Saved.
Adult, males.....	446		115
" females.....	169		17
Children, males.....	54		1
" females.....	48		.....
Total.....	717	of which number	133 were saved.

Of the 609 adult male passengers 172 were saved.

" 310 " female " 41 "

" 65 male children " 1 "

" 73 female " 3 "

Total, 1,057 " 217 "

The total number of the crew saved was 248, as follows:—

	Total number.		Saved.
Deck Department.....	59		36
Engine Department.....	130		92
Sup. Engineers ex- <i>Empress of Asia</i>	4		3
Victualling Department.....	212		113
Matron and 9 stewardesses.....	10		1
Musicians	5		3
Total.....	420	crew.	248 saved.

Question 18.—Did the Master of the S.S. *Storstad* comply with Article 422 of the M.S.A. 1894?

Answer.— Yes.

Question 19.—Was a good and proper lookout kept on board of both vessels?

Answer.—A good and proper lookout was kept on board the *Empress of Ireland*. We are not prepared on the evidence before us to say whether the mistake made by those in charge of the *Storstad* in thinking that the *Empress of Ireland* was passing port was or was not due to an insufficient lookout being kept.

Question 20.—Was the loss of the S.S. *Empress of Ireland*, etc., or the loss of life caused by the wrongful act or default of the Master and First Officer of that vessel, and the Master, First, Second and Third Officers of the SS. *Storstad*, or any of them?

Answer.—This question has already been answered in our report.

PART VII.

SUGGESTIONS.

1. In order to prevent, if possible, disasters such as that into which we have been enquiring, we think that in foggy weather it would be desirable to close all watertight doors and port holes below the top of the watertight bulkheads, and to keep them closed until the fog has completely cleared. We think also that wherever practicable all watertight doors and port holes below the above level should be closed at sunset and kept closed until sunrise.

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Precautions of the kind suggested would have the effect of securing the floatability of the ship in accordance with the intentions of the designer, whereas neglect of such precautions may lead to the foundering of a vessel which would otherwise have remained afloat.

2. The rapidity with which the vessel foundered after the collision made the life saving appliances on board of little use. Most, if not all of the passengers were in bed when the vessel was struck, and there was an interval of only about fifteen minutes between the collision and the foundering. The list which the vessel took to starboard was so sudden and so great that the lifeboats on the port side were rendered useless almost at once. Some of them were indeed worse than useless for they broke adrift and injured people as they clattered down the sloping deck. Of those on the starboard side only six were launched, although the best was done in the short time available to get them into the water. These circumstances lead us to suggest that it might be desirable to consider whether rafts could not be placed in such a position on the upper deck that they would float automatically on the water as the ship sank. Such rafts would doubtless have to be attached to the deck in such a way as to prevent them from getting adrift in bad weather; but the attachments might be of a simple kind which could be loosened in a very short time.

3. It has not been suggested during our inquiry that the catastrophe was in any way attributable to the arrangements made by the Canadian Government for the navigation of the St. Lawrence, nor have we any reason to suppose that those arrangements are in any way unsatisfactory; but we suggest that it might be worth while for the Government to consider whether it may not be desirable and practicable to arrange for the picking up and dropping of pilots to be done at different points so that incoming and outgoing ships may, so far as is possible, be relieved of the necessity of crossing one another.

(Sgd.) MERSEY,
E. McLEOD, C.J.,
A. B. ROUTHIER.

We concur

(Sgd.) W. F. CABORNE,
L. A. DEMERS,
J. J. WELCH,
P. C. W. HOWE.

COMMISSION OF INQUIRY
INTO
WRECKAGE OF 'EMPRESS OF IRELAND.'

LIST OF EXHIBITS PRODUCED BY MR. ASPINALL, COUNSEL FOR
STEAMSHIP '*EMPRESS OF IRELAND*.'

- A. Certified copy of the register of the ship.
 - B. Passenger certificate and copy of declaration of survey of passenger steamship—*Empress of Ireland*.
 - C. Copy of report of survey of immigration ship—*Empress of Ireland*.
 - D. Photograph of *Empress of Ireland*.
 - E. Copy of a letter to Capt. Kendall from Canadian Pacific Railway Company.
 - F. Return list of crew on articles SS. *Empress of Ireland*, voyage,—96—from Liverpool.
 - G. Drawing by Toftenes for Mr. Aspinall.
 - H. Letter (printed).
 - I. Plan of *Empress of Ireland*, showing watertight compartments and subdivisions.
 - J. Transversal plan of *Empress*—watertight subdivisions and doors closing bulkheads.
 - J-1. Orlop deck—plan.
 - K. Plan of lower deck steam piping arrangements.
 - L. Plan showing passenger accommodation.
 - M. Plan showing boat deck.
 - N. Plan showing midship section of *Empress of Ireland*.
 - O. Drawing by witness Saxe for Mr. Aspinall; is also exhibit 11 *Storstad*.
 - P. Captain's trip report, Dominion Coal Company.
 - Q. List of passengers and crew, *Empress of Ireland*, first cabin.
 - R. Ship articles.
 - S. Passenger certificate and declaration of a passenger steamship.
 - T. Emigrant ship certificate.
 - U. Rules for preliminary inquiries and formal investigations into shipping casualties.
 - V. Log, *Empress of Ireland*.
 - X. Specification of a steel iron screw passenger steamer hull.
 - Y. Specification of a steel iron screw passenger steamer machinery.
 - Z. *Empress of Ireland* curve of stability at time of accident.
 - a 1. Stowage plan.
 - b 1. Summary of cargo of *Empress of Ireland*.
 - c 1. Statements by passengers produced by Mr. Newcombe.
 - d 1. Rigging plan of *Empress of Ireland*.
 - d 2. Hold plan arrangements of *Empress of Ireland*.
- * Not printed.

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- d 3. Orlop and lower decks arrangement of *Empress of Ireland*.
- d 4. Arrangement of main and upper decks, *Empress of Ireland*.
- d 5. Arrangement of shelter and lower promenade decks.
- d 6. Upper promenade and boat decks arrangements, *Empress of Ireland*.
- d 7. Plan showing displacement curves of *Empress of Ireland*.
- d 8. Plan showing stability curves of SS. *Empress of Ireland* and *Empress of Britain*.
- e 1. Report by Board of Trade Surveyors' Office, Liverpool.
- f 1. Amended questions—signed E. L. Newcombe.
- g 1. Metacentric calculation of *Empress of Ireland* as she left Father Point.
- h 1. Document from divers of H.M.S. *Essex*.

LIST OF EXHIBITS PRODUCED BY MR. HAIGHT, COUNSEL FOR STEAMSHIP 'STORSTAD.'

EXHIBITS.

- 1. Drawing by Capt. Kendall.
- 2. Drawing by Toftenes.
- 3. Drawing by Capt. Anderson—Ineffectual.
- 4. " " "
- 5. " " "
- 6. " " "
- 7. A-B-C-D-E-F—Photographs of stern of *Storstad*.
- 8. Letter by J. Walsh to Capt. Griffiths.
- 9. Dominion Coal Company time charter party.
- 10. Model describing stern of *Storstad*; one-quarter inch to the foot.
- 11. Drawing by Jacob Saxe.
- 12. *Empress of Ireland* cabin No. 328.
- 13. Scrap log—engines.
- 14. Log-book—engine.
- 15. Deck log.
- 16. Translation of deck log.
- 17. Scrap deck log produced by Toftenes, examined by Mr. Aspinall.
- 18. Scraps produced by Toftenes.
- 19. Plan drawn by Mr. Reid.
- 20. Drawing by Mr. Reid.
- 21. Drawing by Mr. Reid.
- 22. General plan of *Storstad*.

CHARTS.

- A. Showing point of collision as marked by Kendall for Mr. Aspinall.
- B. Showing courses as marked by Toftenes, point of collision as marked by Toftenes, and wreck (G) marked by Gagnon.
- C. Marked by Kendall, course of *Empress* and supposed course of *Storstad*.
- D. Lapierre's chart (French), showing location of passing *Empress* by SS. *Alden*.
- E. Gagnon's chart, showing bearing of wreck buoy.
- F. Chart produced by Mr. Aspinall.

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LIST OF STATEMENTS PRODUCED BY COUNSEL FOR THE CROWN.

EXHIBITS.

- AA. Letter produced by Mr. Newcombe with questions to be solved by the Commission.
- BB. Statement handed in by Counsel for Canadian Pacific Railway—Service of document admitted.
- CC. Copy of Canadian Pacific Regulations for the Navigation and Discipline of the Steamships.

